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OM protein - protein search, using sw model

Run on: September 14, 2004, 00:47:19 ; Search time 132 Seconds  
(without alignments)  
1413.950 Million cell updates/sec

Title: US-09-294-539-4  
Perfect score: 2952  
Sequence: 1 MEPTSHVTNFAFSDSDASV.....RSLSSSSSTSGAIRPRR 582

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 1335176 seqs, 320689617 residues

Total number of hits satisfying chosen parameters: 1335176

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Published Applications AA:\*  
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3: /cgn2\_6/ptodata/2/pubpaa/US06\_NEW\_PUB.pep.\*  
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2934	99.4	582	10	US-09-848-841-10
2	2907.5	98.5	615	15	US-10-374-780A-597
3	2907.5	98.5	615	16	US-10-437-963-153749
4	1737	58.8	576	14	US-10-328-675A-4
5	1672.5	56.7	588	8	US-08-908-884-14
6	1672.5	56.7	588	9	US-09-908-323-14
7	1672.5	56.7	588	14	US-10-328-675A-2
8	1629	55.2	604	14	US-10-328-675A-64
9	1425.5	48.3	335	12	US-10-425-114-68962
10	1276	43.2	593	8	US-08-908-884-3
11	1276	43.2	593	9	US-09-908-323-3
12	1276	43.2	593	10	US-09-934-455-74
13	1276	43.2	593	10	US-09-848-841-17
14	1276	43.2	593	12	US-10-225-066A-954
15	1276	43.2	593	13	US-10-073-035-3

16	1276	43.2	593	15	US-10-225-068-242	Sequence 242, App
17	1276	43.2	593	15	US-10-374-780A-48	Sequence 48, Appl
18	1222.5	41.4	579	14	US-10-328-675A-6	Sequence 6, Appl
19	1213.5	41.1	600	14	US-10-328-675A-20	Sequence 20, Appl
20	1213.5	41.1	601	10	US-09-934-455-434	Sequence 434, App
21	1213.5	41.1	601	12	US-10-412-699B-814	Sequence 814, App
22	1213.5	41.1	601	14	US-10-328-675A-72	Sequence 72, Appl
23	1213.5	41.1	601	15	US-10-374-780A-2092	Sequence 2092, Ap
24	1124	38.1	532	12	US-10-424-599-164227	Sequence 164227, A
25	1124	38.1	532	12	US-10-425-114-38340	Sequence 38340, A
26	1117.5	37.9	624	15	US-10-374-780A-1466	Sequence 1466, Ap
27	1117.5	37.9	624	16	US-10-437-963-122865	Sequence 122865,
28	1117.5	37.9	635	10	US-09-848-841-16	Sequence 16, Appl
29	1060.5	35.9	591	14	US-10-328-675A-66	Sequence 66, Appl
30	1045.5	35.4	592	13	US-10-047-593-2	Sequence 2, Appl
31	1045.5	35.4	592	13	US-10-047-593-4	Sequence 4, Appl
32	1045.5	35.4	609	14	US-10-318-780-11	Sequence 11, Appl
33	1045	35.4	607	14	US-10-318-780-10	Sequence 10, Appl
34	1033.5	35.0	571	12	US-10-424-599-217392	Sequence 217392,
35	1031	34.9	586	14	US-10-328-675A-8	Sequence 8, Appl
36	1031	34.9	586	15	US-10-374-780A-2062	Sequence 2062, Ap
37	1012	34.3	501	16	US-10-767-701-44737	Sequence 44737, A
38	1009	34.2	574	14	US-10-328-675A-70	Sequence 70, Appl
39	995	33.7	475	14	US-10-318-780-4	Sequence 4, Appl
40	987	33.4	455	10	US-09-848-841-12	Sequence 12, Appl
41	971.5	32.9	601	14	US-10-328-675A-18	Sequence 18, Appl
42	915	31.0	204	16	US-10-767-701-53491	Sequence 53491, A
43	846.5	28.7	409	12	US-10-425-114-39468	Sequence 39468, A
44	844.5	28.6	409	14	US-10-318-780-21	Sequence 21, Appl
45	841	28.5	465	12	US-10-425-114-56637	Sequence 56637, A

ALIGNMENTS

RESULT 1  
US-09-848-841-10  
; Sequence 10, Application US/09848841  
; Publication No. US2003017241A1  
; GENERAL INFORMATION:  
; APPLICANT: E. I. du Pont de Nemours and Company  
; APPLICANT: Butler, Karla  
; APPLICANT: Falco, Carl  
; APPLICANT: Panodu, Omolayo O.  
; APPLICANT: Fang, Yiwen  
; APPLICANT: Han, Feng  
; APPLICANT: Heppard, Elmer  
; APPLICANT: Liu, Zhan-Bin  
; APPLICANT: Miao, Gou-Hau  
; APPLICANT: Odell, Joan  
; APPLICANT: Rafalski, Antoni  
; TITLE OF INVENTION: Disease Resistance Factors  
; FILE REFERENCE: B01252 US NAI  
; CURRENT APPLICATION NUMBER: US/09/848,841  
; CURRENT FILING DATE: 2001-05-04  
; PRIOR APPLICATION NUMBER: 60/107,242  
; PRIOR FILING DATE: 1998-11-05  
; PRIOR APPLICATION NUMBER: US99/25,953  
; PRIOR FILING DATE: 1999-10-04  
; NUMBER OF SEQ ID NOS: 17  
; SOFTWARE: Microsoft Office 97  
; SEQ ID NO 10  
; LENGTH: 582  
; TYPE: PRT  
; ORGANISM: Oryza sativa  
US-09-848-841-10

Query Match 99.4%; Score 2934; DB 10; Length 582;  
Best Local Similarity 99.5%; Pred. No. 4.3e-261;  
Matches 579; Conservative 0; Mismatches 3; Indels 0; Gaps 0;  
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Db 61 VPGGGGGGDLRHVRCVLSARSPLRGVFAFAAAAAGGGGDSERLELRELLGGGEE 120  
Qy 121 VEVGYEARLVLVDLYLSRGVGLPKAACLCVDEDCAHVGCHPAFAFMAQVLFAASTFOVA 180  
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Qy 181 ELTNLFORRLDVLVDKVEVDNLLILSVANLCKSCMKLLERCLDMVRSNLDMLTLEKS 240  
Db 181 ELTNLFORRLDVLVDKVEVDNLLILSVANLCKSCMKLLERCLDMVRSNLDMLTLEKS 240  
Qy 241 LPPDVIKQIIDARLSGLISPENKGFNKHVRRIHRAALSDDDVLRMLLTTGGTNLDDA 300  
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RESULT 2  
US-10-374-780A-597  
; Sequence 597, Application US/10374780A  
; Publication No. US20040019927A1  
; GENERAL INFORMATION:  
; APPLICANT: Sherman, Bradley K  
; APPLICANT: Riechmann, Jose Luis  
; APPLICANT: Jiang, Cai-Zhong  
; APPLICANT: Heard, Jacqueline E  
; APPLICANT: Haake, Volker  
; APPLICANT: Creelman, Robert A  
; APPLICANT: Ratcliffe, Oliver  
; APPLICANT: Adam, Luc J  
; APPLICANT: Reuber, T. Lynne  
; APPLICANT: Keddle, James  
; APPLICANT: Broun, Pierre E  
; APPLICANT: Pilgrim, Marsha L  
; APPLICANT: Dubell III, Arnold T  
; APPLICANT: Pineda, Omaira  
; APPLICANT: Yu, Guo-Liang  
; TITLE OF INVENTION: POLYNUCLEOTIDES AND POLYPEPTIDES IN PLANTS  
; FILE REFERENCE: MEI-0047 CIP  
; CURRENT APPLICATION NUMBER: US/10/374,780A  
; CURRENT FILING DATE: 2003-02-25  
; PRIOR APPLICATION NUMBER: 09/837,944  
; PRIOR FILING DATE: 2001-04-18  
; PRIOR APPLICATION NUMBER: 60/310,847  
; PRIOR FILING DATE: 2001-08-09  
; PRIOR APPLICATION NUMBER: 09/934,455  
; PRIOR FILING DATE: 2001-08-22  
; PRIOR APPLICATION NUMBER: 60/336,049  
; PRIOR FILING DATE: 2001-11-19  
; PRIOR APPLICATION NUMBER: 60/338,692  
; PRIOR FILING DATE: 2001-12-11

; PRIOR APPLICATION NUMBER: 10/171,468  
; PRIOR FILING DATE: 2002-06-14  
; PRIOR APPLICATION NUMBER: 10/225,066  
; PRIOR FILING DATE: 2002-08-09  
; PRIOR APPLICATION NUMBER: 10/225,067  
; PRIOR FILING DATE: 2002-08-09  
; PRIOR APPLICATION NUMBER: 10/225,068  
; PRIOR FILING DATE: 2002-08-09  
; NUMBER OF SEQ ID NOS: 2906  
; SOFTWARE: PatentIn version 3.2  
; SEQ ID NO 597  
; LENGTH: 615  
; TYPE: PRT  
; ORGANISM: Oryza sativa  
; FEATURE:  
; OTHER INFORMATION: Orthologous to G278  
US-10-374-780A-597  
  
Query Match 98.5%; Score 2907.5; DB 15; Length 615;  
Best Local Similarity 94.1%; Pred. No. 1.3e-258;  
Matches 579; Conservative 0; Mismatches 3; Indels 33; Gaps 1;  
  
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Db 301 FALHYAVEHCDSKITTELLDLALADVNRHNRPGYTVLHIAARRRREPKEIIVSLLTGARP 360  
Qy 361 DVTFDGRKAVQISKRLTKQGDYFGVTEGKPSKDRLCIEILQAEKRRDPOLGEASVSLA 420  
Db 361 DVTFDGRKAVQISKRLTKQGDYFGVTEGKPSKDRLCIEILQAEKRRDPOLGEASVSLA 420  
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Db 481 ARVAMDIQVDTGLEFNLGSGANPPPERQRTTVDLNESPFFIMKEEHLARMTALSKTVELG 540  
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Qy 568 SSSSSSTSGAIRPRR 582  
Db 601 SSSSSSTSGAIRPRR 615

RESULT 3  
US-10-437-963-153749  
; Sequence 153749, Application US/10437963  
; Publication No. US2004012343A1  
; GENERAL INFORMATION:  
; APPLICANT: La Rosa, Thomas J.

```
; APPLICANT: Kovalic, David K.
; APPLICANT: Zhou, Yihua
; APPLICANT: Cao, Yongwei
; APPLICANT: Wu, Wei
; APPLICANT: Boukharov, Andrey A.
; APPLICANT: Barbazuk, Brad
; APPLICANT: Li, Ping
; TITLE OF INVENTION: Rice Nucleic Acid Molecules and Other Molecules Associated With
; TITLE OF INVENTION: Plants and Uses Thereof for Plant Improvement
; FILE REFERENCE: 38-21(53221)B
; CURRENT APPLICATION NUMBER: US/10/437,963
; PRIOR FILING DATE: 2003-05-14
; NUMBER OF SEQ ID NOS: 204966
; SEQ ID NO 153749
; LENGTH: 615
; TYPE: PRT
; ORGANISM: Oryza sativa
; FEATURE:
; OTHER INFORMATION: Clone ID: PAT_MKT4530_53675C.1.pap
US-10-437-963-153749

Query Match      98.5%; Score 2907.5; DB 16; Length 615;
Best Local Similarity 94.1%; Pred. No. 1.3e-258;
Matches 579; Conservative 0; Mismatches 3; Indels 33; Gaps 1;

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DB 61 VPGGGGGGDLRVHRCVLSARSPELVGFARRAAAAAGGGGDSERLELELLGGGEE 120

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DB 121 VEVGYEALRLVDLYLSRGVGLPKAACLCVDEDCAHVGHCHPAVAFMAQVLFPAASTFOVA 180

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DB 181 ELTNLFORRLDVLQKVEVDNLLILSVANLCNCKMCLERCLDMVVRNLDMTLEKLS 240

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DB 241 LPDVIKQIIDARLSGLISPENKGFPHKGVRIHRAALSDDDVELVRMLLTGQTNLDDA 300

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DB 301 FALHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRRBPKEIIVSLTKGARPA 360

QY 361 DVTFDGRKAVQISKRLTKQDYGVTGTEGKPSPKORLCIETILEQAERRDPQLGEASVSLA 420
DB 361 DVTFDGRKAVQISKRLTKQDYGVTGTEGKPSPKORLCIETILEQAERRDPQLGEASVSLA 420

QY 421 MAGESLRGLLYLENR-----VALARIMFPM 447
DB 421 MAGESLRGLLYLENRNLHIYHNGFIMLVSLVLELTVFGLGNKRKFLYDVVALARIMFPM 480

QY 448 ARVAMDIAQVGTLEFNLSGANPPERTTVDLNEPFIKKEEHLARMTALSKTVELG 507
DB 481 ARVAMDIAQVGTLEFNLSGANPPERTTVDLNEPFIKKEEHLARMTALSKTVELG 540

QY 508 KRFFPRCSNVLDKIMDETDVPSLGRDTSAEKRRPHDLQDVLQKAFHEDKEENDRSGLS 567
DB 541 KRFFPRCSNVLDKIMDETDVPSLGRDTSAEKRRPHDLQDVLQKAFHEDKEENDRSGLS 600

QY 568 SSSSTSICAIRPRR 582
DB 601 SSSSTSICAIRPRR 615
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RESULT 4  
US-10-328-675A-4  
; Sequence 4, Application US/10328675A

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; Publication No. US20030159171A1
; GENERAL INFORMATION:
; APPLICANT: Salmeron, John
; APPLICANT: Weislo, Laura
; APPLICANT: Willits, Michael
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF
; FILE REFERENCE: 30857USNPDIV1
; CURRENT APPLICATION NUMBER: US/10/328,675A
; CURRENT FILING DATE: 2002-12-23
; PRIOR FILING DATE: 2000-03-06
; PRIOR APPLICATION NUMBER: 60/219,338
; PRIOR FILING DATE: 1999-03-09
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 4
; LENGTH: 576
; TYPE: PRT
; ORGANISM: Lycopersicon esculentum
US-10-328-675A-4

Query Match      58.8%; Score 1737; DB 14; Length 576;
Best Local Similarity 59.9%; Pred. No. 8.4e-151;
Matches 349; Conservative 94; Mismatches 108; Indels 32; Gaps 8;

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DB 6 AFSDSNDISGSSSICCMESESTSL-ADVNSLKRLESTLESIFDASAPDFDFADAKLLAP 64

QY 63 GGGGGGGDLRVHRCVLSARSPELVGFARRAAAAAGGGGDSERLELELLGGGEE 122
DB 65 ----GGKEIPVHRCILSARSPFFKNVFC-----GKDSSTKLELKELM----KEYE 106

QY 123 VGYEALRLVDLYLSRGVGLPKAACLCVDEDCAHVGHCHPAVAFMAQVLFPAASTFOVAEL 182
DB 107 VSPDVAVSVLAYLSYGRVPSKDVCCVDCNECLHVACRPAPVAFMVQVLYASFQISQL 166

QY 183 TNLFORRLDVLQKVEVDNLLILSVANLCNCKMCLERCLDMVVRNLDMTLEKSLP 242
DB 167 VDKFQRLHLLDLDKAVADDVNMVLSVANICGKACERLLSRCIDIIVKSNVDIITLDKSLP 226

QY 243 PDVTKQIIDARLSGLISPENKGFPHKGVRIHRAALSDDDVELVRMLLTGQTNLDDAFA 302
DB 227 HDIVKQITDSRAELGLOQSPESNGFPDKHVKRIHRAALSDDDVELVRMLLKESHTLDDAYA 286

QY 303 LHYAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRRBPKEIIVSLTKGARPA 362
DB 287 LHYAVAYCDAKTTAEELDLADVNHNQNPGRGHTVLHVAAMRKEPKIIVSLTKGARPSDL 346

QY 363 TFDGRKAVQISKRLTKQDYGVTGTEGKPSPKORLCIETILEQAERRDPQLGEASVSLA 422
DB 347 TSDGKALQIAKRLTRLVDFTKSTEKGSAKPKORLCIETILEQAERRDPQLGEASVSLA 406

QY 423 GESLRGLLYLENVALARIMFPMEARVAMDIAQVGTLEFNLSGANPPERTTVDL 482
DB 407 GDDLRLKLLYLENRVGLAKCLFPMKAVAMDIAQVGTSELPLASMRKKIADARTTVDL 466

QY 483 NESPFIMKEEHLARMTALSKTVELGKRPFPKCSNVLDKIM--DDETDVPSLGRDTSAB-- 538
DB 467 NEAPFKMKEEHLNRLRALSRTVELGKRPFPKCSNVLNKIMDADDLSEIAYNGNDTVEBRQ 526

QY 539 -KRKRFHDLQDVLQKAFHEDKEENDRSGLSSSSSTSICAIRP 580
DB 527 LKQRYMBELQILSKAFTEKKEEPKTNMSSSCSSTSGKVDKP 569

RESULT 5
US-08-908-884-14
; Sequence 14, Application US/0890884
; Publication No. US20020138872A1
; GENERAL INFORMATION:
; APPLICANT: Dong et al.
; TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
```

Wed Sep 15 10:25:26 2004

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;
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Clark & Elbing LLP
; STREET: 176 Federal Street
; CITY: Boston
; STATE: MA USA
; COUNTRY: MA USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; OPERATING SYSTEM: DOS
; SOFTWARE: FASTSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/908,884
; FILING DATE:
; CLASSIFICATION: 800
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/023,851
; FILING DATE: August 9, 1996
; APPLICATION NUMBER: 60/035,166
; FILING DATE: January 10, 1997
; APPLICATION NUMBER: 60/046,769
; FILING DATE: May 16, 1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Elbing, Karen L
; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 14:
; LENGTH: 588 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-908-884-14

Query Match 56.7%; Score 1672.5; DB 8; Length 588;
Best Local Similarity 56.8%; Pred. No. 7.6e-145;
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;

QY 11 AFSDSDSASVEE-----GDADADAVEALRLSDNLAFAAF-RSPEDFAFLAD 56
DB 7 AFSDSDISGSSICICGGMTFFSPETSPAEITSLKRLSETLSEIFDASLPEDYFAD 66
QY 57 ARIAVPGGGGGDLRVHRCVLSARSFPLRGVFAFAAAAGGGGGESERLELRLGG 116
DB 67 AKLVV---SGPCKEIPVHRCILSARSPFFKNLFC-----GKCKNSSKVELKEVM-- 113
QY 117 GBEVEVGYEALRLVLDYLSGRVGLPKAACLCVDEDCAHVGHCHPAVAFMAQVLF 176
DB 114 --KEHEVSYDAVMSVLAFLYSGKRVSPKDCVCCVNDCHVACRPAVAFLEVLTSFT 171
QY 177 FQVAELNLFORLLDVLDEVDNILLILSVANLCKSKMCLLERCLDMVRSNLDMIT 236
DB 172 FQISELVKQRLHLLDILDTAADDVMMVLSVNICGKACERLLSSCIEIIVKSNVDIIT 231
QY 237 LEKSLPPDVTKQIIDARLSGLISPENKGPVHRIHRLALSDDDVELVRLMTTGQTN 296
DB 232 LDKALPHDIKQITDSRAELGLOQFESNGFPDKHVKRIHRLALSDDDVELLQMLRGHTT 291
QY 297 LDDAFALHYAHECHDSKITTELLDALADVNNHNPRTYVTLHIAARRRPEKIIIVSLITKG 356
DB 292 LDDAYALHYAVAYCDATKTBELLDALADINHQNRSYTVLVHVAAMEKEPKIVVSLITKG 351
QY 357 ARPADVTPDGRKAVQISKRLLTKQDYGFGVTEEGKSPKRLCIEIIEQARRRPFQIGAS 416
DB 352 ARPSDLTSDGRKALQIAKRLTRLVDFSKSPBEKGSASNDRLCIEIIEQARRRPFLLGEAS 411
QY 417 VSLAMAGESLRGLLYLENRVLAIRIMFPEARVAMDAIQVDGTLEPNLGSANPPPERQ 476

;
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Clark & Elbing LLP
; STREET: 176 Federal Street
; CITY: Boston
; STATE: MA USA
; COUNTRY: MA USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; OPERATING SYSTEM: DOS
; SOFTWARE: FASTSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/908,323
; FILING DATE:
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/908,884
; FILING DATE: <Unknown>
; APPLICATION NUMBER: 60/035,166
; FILING DATE: January 10, 1997
; APPLICATION NUMBER: 60/046,769
; FILING DATE: May 16, 1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Elbing, Karen L
; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 14:
; LENGTH: 588 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-09-908-323-14

Query Match 56.7%; Score 1672.5; DB 9; Length 588;
Best Local Similarity 56.8%; Pred. No. 7.6e-145;
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;

QY 11 AFSDSDSASVEE-----GDADADAVEALRLSDNLAFAAF-RSPEDFAFLAD 56
DB 7 AFSDSDISGSSICICGGMTFFSPETSPAEITSLKRLSETLSEIFDASLPEDYFAD 66
QY 57 ARIAVPGGGGGDLRVHRCVLSARSFPLRGVFAFAAAAGGGGGESERLELRLGG 116
DB 67 AKLVV---SGPCKEIPVHRCILSARSPFFKNLFC-----GKCKNSSKVELKEVM-- 113
QY 117 GBEVEVGYEALRLVLDYLSGRVGLPKAACLCVDEDCAHVGHCHPAVAFMAQVLF 176
```

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Db 114 --KEHEVSDAVMSVLAFLYSGKVRPSKDVCCVNDCHSHVACRPAPAVFLVEVYTSFT 171
Qy 177 FOVAELTNLFQRRLLDVLVDKVEVDNLLILSVANLCNKSCKMLRCLDMVVRSLDMIT 236
Db 172 FOISELVDFKFORHLLDILDKTAADDVMMVLSVANICGKACERLLSSCIEIIVKSNVDIIT 231
Qy 237 LEKSLPPDVIKQIIDARLSGLISPENKGFNKHVRRHRAALDSDVVELVRLMLTTEGQTN 296
Db 232 LDKALPHDIVKQITDSRAELGLQGPESNGFPDKHVRIHRAALDSDVVELLQMLLREGHTT 291
Qy 297 LDDAFALHYAVEHCHDSKITTELLDLALADVNRHNRPRGYTVLHIAARRREPKEIIVSLLTGK 356
Db 292 LDDALHYAVAYCDAKTAEELDLALADINHONSGYTVLHVAAMRKEPKIIVSLLTGG 351
Qy 357 ARPADVTFDGRKAVQISKRLTKQGYFGVTBEGKPSPKDRLCIEILEQAERDDPOLGEAS 416
Db 352 ARPSDLTSDGRKALQIAKRLTRLVDFSKSPBEGKASNDRLCIEILEQAERDDPOLGEAS 411
Qy 417 VSLAMAGESLRGLLYLENRVALARIMFPMEARVAMDAQVDGTLFNLGSGANPPPERQ 476
Db 412 VSLAMAGDRLMKLLYLENRVGLAKLLFPMKAVAMDAQVDGTSFPLASIGKXMANAQ 471
Qy 477 RTTVDLNESPFIMKEEHLARMTALSKTVELGKRFPPRCNSVLDKIM--DDETDVPSLGRD 534
Db 472 RTTVDLNEAPFKIKEHLNRLRALSRVTVELGKRFPPRCSEVLNKMIMDADDUSEIAYMGND 531
Qy 535 TSAE---KRKRPHDLQVLOKAFHEDKEENDR--SGLSSSSSSSTSGAIRPRR 582
Db 532 TAERQLKQRYMELQEIILTKAFTEDKEEYDKTNNISSSCSSTSGKGVDPKPNK 583

RESULT 7
US-10-328-675A-2
; Sequence 2, Application US/10328675A
; Publication No. US20030159171A1
; GENERAL INFORMATION:
; APPLICANT: Salmeron, John
; APPLICANT: Weisslo, Laura
; APPLICANT: Willite, Michael
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF
; FILE REFERENCE: 30857USNPDIIV1
; CURRENT APPLICATION NUMBER: US/10/328,675A
; PRIOR FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 09/519,232
; PRIOR FILING DATE: 2000-03-06
; PRIOR APPLICATION NUMBER: 60/219,338
; PRIOR FILING DATE: 1999-03-09
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 2
; LENGTH: 588
; TYPE: PRT
; ORGANISM: Nicotiana tabacum
US-10-328-675A-2

Query Match 56.7%; Score 1672.5; DB 14; Length 588;
Best Local Similarity 56.8%; Pred. No. 7.6e-145;
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;

Qy 11 AFSDSDSASVEE-----GDADADADVALLRRLSDNLAAP-RSPEDAFPLAD 56
Db 7 AFSDSDNISGSSSICCGGMTEFFSPETSPAETSLKRLSETLESIFDASLPEFDYFAD 66
Qy 57 ARIAPVGGGGGGDLRVHRCVLSARSPFLRGVFARRAAAAGGGEDGSELELELLGG 116
Db 67 AKLVV---SGPKKEIPVHRCILSARSPFFKNUFC-----GKKEKSSRVKELKEV-- 113
Qy 117 GGEVEVGYEARLRLVDLYSGRVGDLPKAACLGVDDECAHVGCHPAPVAFMAQVLFAS 176
Db 114 --KEHEVSDAVMSVLAFLYSGKVRPSKDVCCVNDCHSHVACRPAPAVFLVEVYTSFT 171
Qy 177 FOVAELTNLFQRRLLDVLVDKVEVDNLLILSVANLCNKSCKMLRCLDMVVRSLDMIT 236
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Db 172 FOISELVDFKFORHLLDILDKTAADDVMMVLSVANICGKACERLLSSCIEIIVKSNVDIIT 231
Qy 237 LEKSLPPDVIKQIIDARLSGLISPENKGFNKHVRRHRAALDSDVVELVRLMLTTEGQTN 296
Db 232 LDKALPHDIVKQITDSRAELGLQGPESNGFPDKHVRIHRAALDSDVVELLQMLLREGHTT 291
Qy 297 LDDAFALHYAVEHCHDSKITTELLDLALADVNRHNRPRGYTVLHIAARRREPKEIIVSLLTGK 356
Db 292 LDDALHYAVAYCDAKTAEELDLALADINHONSGYTVLHVAAMRKEPKIIVSLLTGG 351
Qy 357 ARPADVTFDGRKAVQISKRLTKQGYFGVTBEGKPSPKDRLCIEILEQAERDDPOLGEAS 416
Db 352 ARPSDLTSDGRKALQIAKRLTRLVDFSKSPBEGKASNDRLCIEILEQAERDDPOLGEAS 411
Qy 417 VSLAMAGESLRGLLYLENRVALARIMFPMEARVAMDAQVDGTLFNLGSGANPPPERQ 476
Db 412 VSLAMAGDRLMKLLYLENRVGLAKLLFPMKAVAMDAQVDGTSFPLASIGKXMANAQ 471
Qy 477 RTTVDLNESPFIMKEEHLARMTALSKTVELGKRFPPRCNSVLDKIM--DDETDVPSLGRD 534
Db 472 RTTVDLNEAPFKIKEHLNRLRALSRVTVELGKRFPPRCSEVLNKMIMDADDUSEIAYMGND 531
Qy 535 TSAE---KRKRPHDLQVLOKAFHEDKEENDR--SGLSSSSSSSTSGAIRPRR 582
Db 532 TAERQLKQRYMELQEIILTKAFTEDKEEYDKTNNISSSCSSTSGKGVDPKPNK 583

RESULT 8
US-10-328-675A-64
; Sequence 64, Application US/10328675A
; Publication No. US20030159171A1
; GENERAL INFORMATION:
; APPLICANT: Salmeron, John
; APPLICANT: Weisslo, Laura
; APPLICANT: Willite, Michael
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF
; FILE REFERENCE: 30857USNPDIIV1
; CURRENT APPLICATION NUMBER: US/10/328,675A
; PRIOR FILING DATE: 2002-12-23
; PRIOR APPLICATION NUMBER: 09/519,232
; PRIOR FILING DATE: 2000-03-06
; PRIOR APPLICATION NUMBER: 60/219,338
; PRIOR FILING DATE: 1999-03-09
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 64
; LENGTH: 604
; TYPE: PRT
; ORGANISM: Beta vulgaris
US-10-328-675A-64

Query Match 55.2%; Score 1629; DB 14; Length 604;
Best Local Similarity 57.4%; Pred. No. 8.1e-141;
Matches 343; Conservative 81; Mismatches 130; Indels 44; Gaps 10;

Qy 11 AFSDSDSAS-----VEGDADADADVALLRRLSDNLAAPR---SPED 50
Db 15 AFSDSDNISGSSSICCVAAATTTTAAENSLSTPDAAALLRLSENLDLSLFPQPSLSLD 74
Qy 51 FAFLADARIAVPGGGGGDLRVHRCVLSARSPFLRGVFARRAAAAGGGEDGSE--- 107
Db 75 SDSFADAKIVV---SGDSREVAHVRHCVLSRSSSFFRSFAFASKEKEK-----ERDKERVVK 127
Qy 108 LELRELLGGGEGEEVGYEARLRLVDLYSGRVGDLPKAACLGVDDECAHVGCHPAPVAFM 167
Db 128 LELKDLAG----DEVEGFDVSVAVLGYLSGKVRNLPRGICVCVDEDCSHACRPADV 183
Qy 168 AQVLFASASTFQVAELTNLFQRRLLDVLVDKVEVDNLLILSVANLCNKSCKMLRCLDMV 227
Db 184 VEVLVLSHKPEIIVELVSLYQRHLLDILDKIAPDDVVLVLSVAEMCGNACDGLLARCIDKI 243
Qy 228 VRSNLDMLTEKSLPPDVIKQIIDARLSGLISPENKGFNKHVRRHRAALDSDVVELVR 287
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Db      244  VRSIDVTTIDKSLQNVVKKIIDTRKELFTPEGRVFPDKHVKKIRHRALESDDVELVR 303
Qy      288  MLITGQTNLDLDAFALHVAHECDISKITTELLDLDALADVNHNPRGYTVLHIAARRPEPK 347
Db      304  MLKERTHTLDDAYALHVAHVAHCDAKTTTELLGLADVNLRNLRGHTVLHVAAMRKEPK 363
Qy      348  IIVSLITKCARPADVTFFGRKAVOISKRITKOGDYFGVTEGKPSKDRLCIEILEQAR 407
Db      364  IIVSLITKGAHPSDITSDDKQALQAKRLTKAVDFYKTEQKODAPKDRLCIEILEQAR 423
Qy      408  RDPOLGEASVSLAMAGESIRGLLYENRVALARIMFPPEARVAMDIQVDTGLEFNLS 467
Db      424  REPLGEGSVSLAKAGDDLKMLLYENRVALARLLFPMEAKVAMDIQVDTGSEFTLSK 483
Qy      468  GANPPPERQRTTVDLNEGSPFIMKEHRLAMTALSKTVELGKRPFRCSNVLDKIND--DE 525
Db      484  NI--ADARNNAVDLNEAPFIIKEHQLQMKALSKTVELGKRPFRCSNVLDKINDAEDL 540
Qy      526  TDPVSLGRDTSAE--KKRPHFDLQDLQKAPHEDKEENDRSGLSSSSSSSTSGAIRP 580
Db      541  SQAFLGKDTPEQRKRKRYLELODALTAKFTEDKEFDRSLTSSSSSSSTPMG--RP 596

```

## RESULT 9

```

US-10-425-114-68962
; Sequence 68962, Application US/10425114
; Publication No. US2004003488A1
; GENERAL INFORMATION:
; APPLICANT: Liu, Jingdong
; APPLICANT: Zhou, Yihua
; APPLICANT: Kovalic, David K.
; APPLICANT: Screen, Steven E
; APPLICANT: Tabaska, Jack E
; APPLICANT: Cao, Yongwei
; TITLE OF INVENTION: Nucleic Acid Molecules and Other Molecules Associated with
; FILE OF INVENTION: Plants and Uses Thereof for Plant Improvement
; FILE REFERENCE: 38-21(5313)B
; CURRENT APPLICATION NUMBER: US/10/425,114
; CURRENT FILING DATE: 2003-04-28
; NUMBER OF SEQ ID NOS: 73128
; SEQ ID NO 68962
; LENGTH: 335
; TYPE: PRT
; ORGANISM: Zea mays
; FEATURE:
; OTHER INFORMATION: Clone ID: UC-ZMFLB73300C06_FLI.pap
US-10-425-114-68962

```

Query Match 48.3%; Score 1425.5; DB 12; Length 335;  
 Best Local Similarity 83.9%; Pred. No. 1.9e-122;  
 Matches 282; Conservative 24; Mismatches 25; Indels 5; Gaps 2;

```

Qy      251  DARLSGLSPENKGFPHVRIHRLDSDVELVRMLLTGQTNLDLDAFALHVAHEHC 310
Db      1  DARVSLGLVSPEDKGFPHVRIHRLDSDVELVRMLLTGQTNLDLDAFALHVAHEHC 60
Qy      311  DSKITTELLDALADVNHNPRGYTVLHIAARRPEPKIIVSLITKCARPADVTFFGRKAV 370
Db      61  DSKITTELLDALADVNHNPRGYTVLHIAARRPEPKIIVSLITKCARPADVTFFGRKAV 120
Qy      371  QISKRTKOGDYFGVTEGKPSKDRLCIEILEQARRDPOLGEASVSLAMAGESIRGL 430
Db      121  QISKRTKHGDFGPTEDGKPSKDRLCIEILEQARRDPOLGEASVSLAMAGESIRGL 180
Qy      431  LYLENRVALARIMFPPEARVAMDIQVDTGLENLGSGANPPPERQRTTVDLNEGSPFIMK 490
Db      181  LYLENRVALARIILFPPEARVAMDIQVDTGLENLGSGANPPPERQRTTVDLNEGSPFIMK 239
Qy      491  EEHLARMTALSKTVELGKRPFRCSNVLDKIMDDETDPSVSLGRDTSAAEKRRPHDLQDVL 550
Db      240  EEHLARMALSKTVEGKRPFRCSNVLDKIMDDETDPSVSLGRDTSAAEKRRPHDLQDVL 299

```

```

Qy      551  QKAFHEDKEENDRSGL-----SSSSSSSTSGAIRPRR 582
Db      300  QKAFSEDKENDRSAAARSPSSSSSTTTTSGAVRPRR 335

```

## RESULT 10

```

US-08-908-884-3
; Sequence 3, Application US/08908884
; Publication No. US20020138872A1
; GENERAL INFORMATION:
; APPLICANT: Dong et al.
; TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Clark & Elbing LLP
; STREET: 176 Federal Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/908,884
; FILING DATE:
; CLASSIFICATION: 800
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/023,851
; FILING DATE: August 9, 1996
; APPLICATION NUMBER: 60/035,166
; FILING DATE: January 10, 1997
; APPLICATION NUMBER: 60/046,769
; FILING DATE: May 16, 1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Elbing, Karen L
; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 593 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-908-884-3

```

Query Match 43.2%; Score 1276; DB 8; Length 593;  
 Best Local Similarity 47.2%; Pred. No. 2.6e-108;  
 Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;

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Qy      5  TSHVTNAPSDSDSASVEEGDADADYEALRSLDNLAARSPEDFAFLADARLAVPGG 64
Db      17  TSFVATNDTDSIVYLAAEQVLTPGVSAQLQSLNSFESVDFSPDD--FYSDAKLVL--- 71
Qy      65  GGGGGDLRVHRCVLSARSPFLRGVFAARRAAAAAGGGGDSERLELRELLGGGGEVEVG 124
Db      72  -SDGEVSVFHRVLSARSPFFKSALA--AAKKEDSNNTAAVKLEKEI---AKDYEVG 124
Qy      125  YEALRLVDLYLGRVGDLPKAAALCVDEDCAHVGHCHPAVAFMAQVLPAASTFOVAELTN 184
Db      125  FDSVVTVLAYVYSSVRPPKGVSECDENECCHVACRPADFVDFMJEVLAIFFKPELIT 184
Qy      185  LFQRELLDVLKVEVDNLLILSVANLCNKSCKMLLERCLDMVVRNSNLDMITLEKSLPPD 244
Db      185  LFQRELLDVLKVEVDNLLILSVANLCNKSCKMLLERCLDMVVRNSNLDMITLEKSLPPD 244
Qy      245  VIKIIDARLSGLISLENKGFPHVRIHRLDSDVELVRMLLTGQTNLDLDAFALH 304

```

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Db 245 LVKEIIDRRKELGKLVKPKV-----KHVSNVHKALSDSDIELVKLKKEDHNTLDDACALH 300
Qy 305 YAVEHCDSKITTELDLADLVNHRNPRGYTVLHIAARRRREPKIIVSLLTGKARPADVTF 364
Db 301 PAVAYCNVKTATDLKLDLADLVNHRNPRGYTVLHVAAMRKEPQLILSLLEKASASEATL 360
Qy 365 DGRKAVQISKRLTKOGDYFGVTEBQKSPKORLCIEILEQARRRPPQIGEASVSLAMAGE 424
Db 361 EGRTALMIAKQATWAVECNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPPSFAVAAD 420
Qy 425 SLRGRLLYLENRVALARIMFPMEARVAMDIQVDTGLEFNLGSGANPPPER-----QRTTV 480
Db 421 ELKMTLLDLENRVALAQRLEPTEAQAAMEIAEMKGTCEFI VTS---LEPDLTGKRTSP 477
Qy 481 DLNESPFIMKEEHLARMTALSKTVBLGRFPFRCNSVLDKIMD-DETPVSLGRDTSAEK 539
Db 478 GVKIAPFRILEHOSRLKALSKTVBLGRFPFRCNSAVLDQIMNCEDLTQLACGEDDTAEK 537
Qy 540 R-----KRPHDLQDVLOKAFHEDKEENDRSGLSSSSSSTS 574
Db 538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSSLTDSSTS 576
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## RESULT 11

```
US-09-908-323-3
; Sequence 3, Application US/09908323
; Patent No. US20020073447A1
; GENERAL INFORMATION:
; APPLICANT: Dong et al.
; TITLE OF INVENTION: ACQUIRED RESISTANCE GENES AND USES THEREOF
; NUMBER OF SEQUENCES: 28
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Clark & Elbing LLP
; STREET: 176 Federal Street
; CITY: Boston
; STATE: MA
; COUNTRY: USA
; ZIP: 02110
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FASTSEQ for Windows Version 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/908,323
; FILING DATE: 17-Jul-2001
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/908,884
; FILING DATE: <Unknown>
; APPLICATION NUMBER: 60/035,166
; FILING DATE: January 10, 1997
; APPLICATION NUMBER: 60/046,769
; FILING DATE: May 16, 1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Elbing, Karen L.
; REGISTRATION NUMBER: 35,238
; REFERENCE/DOCKET NUMBER: 00786/339004
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 617-428-0200
; TELEFAX: 617-428-7045
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 593 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-09-908-323-3
```

Query Match

43.2%; Score 1276; DB 9; Length 593;

```
Best Local Similarity 47.2%; Pred. No. 2.6e-108;
Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;
Qy 5 TSHVTNAPSDSDASVEEGDADADYEAALRRRLSDNLAAAFSPSPEDFAFLADARIAVGG 64
Db 17 TSPVATDNTDSSIVYLAABQVLTGPDVSAQLQLSNSPESVFDSPD--FYSDAKLVL--- 71
Qy 65 GGGGDDLRVHRCVLSARSFPLRGVFPARRAAAAAGGGSDGSRLELELLELGGGEEVEVG 124
Db 72 -SDGREVLSFHRVLSARSFSPKLSALA--AAKKEKDSNNTAAVKLELKEI-----AKDYEVG 124
Qy 125 YEALRLVLDLYLSGRVGDLPKAAACLCVDEDCAHVGHCHPAVAFMAQVLFAASTFOVAELTN 184
Db 125 FDSVTVVLAIVYSRVPPPKGVSECADENCHVACRPADVDFMLEVLYLAFIKIPELIT 184
Qy 185 LFQRRLLDVLQKVEDNLLILSVANLCNCKMLERCLDMVVRNLDMLTLEKSLPDP 244
Db 185 LYQRHLLDVVDVKVIEDTLVILKLANICGKACMKLLDRCKEIIVKSNDVNVSLKSLPEE 244
Qy 245 VIKOIIDARLSLGLISPENKGFNKHVRRTHRALDSDDELVLRMLLTGEGVNLDDAPALH 304
Db 245 LVKEIIDRRKELGKLVKPKV-----KHVSNVHKALSDSDIELVKLKKEDHNTLDDACALH 300
Qy 305 YAVEHCDSKITTELDLADLVNHRNPRGYTVLHIAARRRREPKIIVSLLTGKARPADVTF 364
Db 301 PAVAYCNVKTATDLKLDLADLVNHRNPRGYTVLHVAAMRKEPQLILSLLEKASASEATL 360
Qy 365 DGRKAVQISKRLTKOGDYFGVTEBQKSPKORLCIEILEQARRRPPQIGEASVSLAMAGE 424
Db 361 EGRTALMIAKQATWAVECNIPEQCKHSLKGRLCVEILEQEDKREQIPRDVPPPSFAVAAD 420
Qy 425 SLRGRLLYLENRVALARIMFPMEARVAMDIQVDTGLEFNLGSGANPPPER-----QRTTV 480
Db 421 ELKMTLLDLENRVALAQRLEPTEAQAAMEIAEMKGTCEFI VTS---LEPDLTGKRTSP 477
Qy 481 DLNESPFIMKEEHLARMTALSKTVBLGRFPFRCNSVLDKIMD-DETPVSLGRDTSAEK 539
Db 478 GVKIAPFRILEHOSRLKALSKTVBLGRFPFRCNSAVLDQIMNCEDLTQLACGEDDTAEK 537
Qy 540 R-----KRPHDLQDVLOKAFHEDKEENDRSGLSSSSSSTS 574
Db 538 RLQKKQRYMEIQETLKKAFSEDNLELGNSSSLTDSSTS 576
RESULT 12
US-09-934-455-74
; Sequence 74, Application US/09934455
; Publication No. US20030121070A1
; GENERAL INFORMATION:
; APPLICANT: Adam, Luc
; APPLICANT: Creelman, Robert
; APPLICANT: Dubell, Arnold
; APPLICANT: Heard, Jacqueline
; APPLICANT: Jiang, Cai-Zhong
; APPLICANT: Keddie, James
; APPLICANT: Pilgrim, Marena
; APPLICANT: Ratcliffe, Oliver
; APPLICANT: Reuber, Lynne
; APPLICANT: Riechmann, Jose Luis
; APPLICANT: Yu, Guo-Liang
; APPLICANT: Pineda, Omaira
; TITLE OF INVENTION: Genes for Modifying Plant Traits IV
; FILE REFERENCE: MBI-0025
; CURRENT APPLICATION NUMBER: US/09/934,455
; CURRENT FILING DATE: 2001-08-22
; PRIOR APPLICATION NUMBER: 60/227439
; PRIOR FILING DATE: 2000-08-22
; PRIOR APPLICATION NUMBER: MBI-0022
; PRIOR FILING DATE: 2001-11-16
; PRIOR APPLICATION NUMBER: MBI-0023
; PRIOR FILING DATE: 2001-04-17
; NUMBER OF SEQ ID NOS: 516
; SOFTWARE: Patent in version 3.1
```







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; TITLE OF INVENTION: Yield-Related Polynucleotides and Polypeptides in Plants
; FILE REFERENCE: MB10036-2 US
; CURRENT APPLICATION NUMBER: US/10/225,066A
; CURRENT FILING DATE: 2002-08-09
; PRIOR APPLICATION NUMBER: 09/837,444
; PRIOR FILING DATE: 2001-04-18
; PRIOR APPLICATION NUMBER: 60/310,847
; PRIOR FILING DATE: 2001-08-09
; PRIOR APPLICATION NUMBER: 60/336,049
; PRIOR FILING DATE: 2001-12-05
; PRIOR APPLICATION NUMBER: 60/338,692
; PRIOR FILING DATE: 2001-12-11
; PRIOR APPLICATION NUMBER: 10/171,468
; PRIOR FILING DATE: 2002-06-14
; NUMBER OF SEQ ID NOS: 1122
; SOFTWARE: Patent in version 3.1
; SEQ ID NO 954
; LENGTH: 593
; TYPE: PRT
; ORGANISM: Arabidopsis thaliana
; US-10-225-066A-954

Query Match          43.2%; Score 1276; DB 12; Length 593;
Best Local Similarity 47.2%; Pred. No. 2.6e-108;
Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;

QY 5 TSHVTNAPSDSDSASVEGDADADADVEALRRLSNLAARSPEDFAFLADARIAVPGG 64
Db 17 TSFVATDNTSSIVYLAEEQVLTPDVSALQLLSNFSFSDPDD--FYSDAKLVL--- 71
QY 65 GGGGGLRVHRCVLSARSFPLRGVFAARRAAAAGGGGDSERLELRLGGGEEVEVG 124
Db 72 -SDGREVSFHRCLVLSARSFPLRGVFAARRAAAAGGGGDSERLELRLGGGEEVEVG 124
QY 125 YEALRLVDLYSGRVGDLPKAACLCVDEDCAHVGHCHPAVAFMAQVLPFAASTFOVAELTN 184
Db 125 FDSVTVTLAYVYSSRVPRPPKGVSECADENCCCHVACRPVDFPMLEVLVYLAFFIKIPELIT 184
QY 185 LFQRRLLDVLKVEVDNLLILSVANLCNCKMLRCLDMVRSNLDMLTLEKSLPPD 244
Db 185 LYQRHLDDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIIVKSNVDVMSLEKSLPEE 244
QY 245 VIKQIIDARLSGLISPENKGFPPNKHVRIHRLDSDDDVELVRLMLLTGEGTNLDDAFALH 304
Db 245 LVKEIIDRRKELGLVPPVKV----KHSVNVHKALDSDDIELVKLLKEDHTNLDACALH 300
QY 305 YAVEHCDSKITTELLDLALADVNHNRPRGYTVLHIAARRRPKIIIVSLTTKGARPADVTF 364
Db 301 FAVAYCNVKTATDLKLADLVNHNRPRGYTVLHVAARKPEQLILSLEKGSASEATL 360
QY 365 DGRKAVQISKRLTKQGDYFGVTEGKPSPKDRLCIEILEQARRDPQLGEASVSLAMAGE 424
Db 361 EGRALTMAIKQATMAVECNIPQCKSHLKGRLCVLEILEQEDKREQIPRDVPPSPFAVAAD 420
QY 425 SLRGRLVLENVALARIMFPEARVAMDIAQVDTGLEFNLGSGANPPPER----QRTTV 480
Db 421 ELKMTLLLENVALAQRLLFPTERAQAMEIAEMKGTCEFIVTS---LEPDRLTGTRKTSF 477
QY 481 DINESPFTMKEBHARMTALSKTVELGKFRPPRCNSNVLDKMD--DETDPVSLGRDTSAEK 539
Db 478 GVKIAPFRILEHQRLKALSITVELGKFRFPFRCNSAVLDQINNCBDLTQLACGEDDTAEK 537
QY 540 R-----KRFHDLQDVLOKAFHEDKEENDRSGLSSSSSSTS 574
Db 538 RLQKQRYMEIQETLKKAFSEDNLELGNSSLTDSSTS 576

RESULT 15
US-10-079-035-3
; Sequence 3, Application US/10079035
; Publication No. US20020152499A1
; GENERAL INFORMATION:
; APPLICANT: Ryale, John
```

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; APPLICANT: Delaney, Terry
; APPLICANT: Friedrich, Leslie
; APPLICANT: Weymann, Kristianna
; APPLICANT: Lawton, Kay
; APPLICANT: Ellis, Daniel
; APPLICANT: Unnes, Scott
; APPLICANT: Jesse, Taco
; APPLICANT: Vos, Pieter
; TITLE OF INVENTION: GENE ENCODING A PROTEIN INVOLVED IN THE
; TITLE OF INVENTION: SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RSSIS
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. US20020152499A1artis Corporation
; STREET: 520 White Plains Road, P.O. Box 2005
; CITY: Tarrytown
; STATE: New York
; COUNTRY: USA
; ZIP: 10591
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/10/079,035
; APPLICATION NUMBER: US/10/079,035
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 09/577,799
; FILING DATE:
; APPLICATION NUMBER: 08/880,179
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: CGC 1909
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 3:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 593 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-10-079-035-3

Query Match          43.2%; Score 1276; DB 13; Length 593;
Best Local Similarity 47.2%; Pred. No. 2.6e-108;
Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;

QY 5 TSHVTNAPSDSDSASVEGDADADADVEALRRLSNLAARSPEDFAFLADARIAVPGG 64
Db 17 TSFVATDNTSSIVYLAEEQVLTPDVSALQLLSNFSFSDPDD--FYSDAKLVL--- 71
QY 65 GGGGGLRVHRCVLSARSFPLRGVFAARRAAAAGGGGDSERLELRLGGGEEVEVG 124
Db 72 -SDGREVSFHRCLVLSARSFPLRGVFAARRAAAAGGGGDSERLELRLGGGEEVEVG 124
QY 125 YEALRLVDLYSGRVGDLPKAACLCVDEDCAHVGHCHPAVAFMAQVLPFAASTFOVAELTN 184
Db 125 FDSVTVTLAYVYSSRVPRPPKGVSECADENCCCHVACRPVDFPMLEVLVYLAFFIKIPELIT 184
QY 185 LFQRRLLDVLKVEVDNLLILSVANLCNCKMLRCLDMVRSNLDMLTLEKSLPPD 244
Db 185 LYQRHLDDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIIVKSNVDVMSLEKSLPEE 244
QY 245 VIKQIIDARLSGLISPENKGFPPNKHVRIHRLDSDDDVELVRLMLLTGEGTNLDDAFALH 304
Db 245 LVKEIIDRRKELGLVPPVKV----KHSVNVHKALDSDDIELVKLLKEDHTNLDACALH 300
QY 305 YAVEHCDSKITTELLDLALADVNHNRPRGYTVLHIAARRRPKIIIVSLTTKGARPADVTF 364
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Db 301 FAVAYCNVKTATDLKLDLADVNHENPRGYTVLHVAMRKEPQLILSLLEKASASEATL 360  
QY 365 DGRKAVQISKRLTKOGDYFGVTEGKSPKORLCIEILEQAEHRDPQLGEASVSLAMAGE 424  
Db 361 EGRTALMIAKOATMAVECNNIPEOCKHSLKGLCEVEILEQEDKREQIPRDVPPPSFAVAAD 420  
QY 425 SLRGRLLYLENEVALARIMFPMEARVAMDIAQVDCGTLEFNLGSGANPPPER---ORTTV 480  
Db 421 EUKMTLLDENRVALAQRLPPTAQAMEIAEMKGTCEFIVTS---LEPDRLTGKRTSP 477  
QY 481 DLNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIND-DETDVSLGRDTSAEK 539  
Db 478 GVKIAPFRILEEHQSRKLSKTVELGKRPFRCSAVLDQIMNCEDLTQLACGEDDTAEK 537  
QY 540 R----KRFHDLQDVLOKAPHEDKEENDRSGLSSTSSSTS 574  
Db 538 RLQKKORYMEIQETLKKAFSEDNLEGNSSLTDSTSTS 576

Search completed: September 14, 2004, 01:00:47  
Job time : 135 secs

GenCore version 5.1.1.6  
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OM protein - protein search, using sw model

Run on: September 14, 2004, 00:38:24 ; Search time 34 Seconds  
(without alignments)  
883.715 Million cell updates/sec

Title: US-09-294-539-4  
Perfect score: 2952  
Sequence: 1 MEPTSHVTNAFSDSDSASV.....RSLSSSSSTSGAIRPRR 582

Scoring table: BLOSUM62  
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000  
Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents AA:\*  
1: /cgn2\_6/prodata/2/1aa/5A-COMB.pep:\*  
2: /cgn2\_6/prodata/2/1aa/5B-COMB.pep:\*  
3: /cgn2\_6/prodata/2/1aa/6A-COMB.pep:\*  
4: /cgn2\_6/prodata/2/1aa/6B-COMB.pep:\*  
5: /cgn2\_6/prodata/2/1aa/PCITUS-COMB.pep:\*  
6: /cgn2\_6/prodata/2/1aa/backfiles1.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1737	58.8	576	4	US-09-519-232-4
2	1672.5	56.7	588	4	US-09-519-232-2
3	1629	55.2	604	4	US-09-519-232-64
4	1276	43.2	593	2	US-08-989-478-2
5	1276	43.2	593	3	US-08-996-685-2
6	1276	43.2	593	3	US-08-880-178-3
7	1270	43.0	593	2	US-08-989-478-8
8	1270	43.0	593	3	US-08-996-685-8
9	1222.5	41.4	579	4	US-09-519-232-6
10	1213.5	41.1	600	4	US-09-519-232-20
11	1213.5	41.1	601	4	US-09-519-232-72
12	1188.5	40.3	521	2	US-08-989-478-12
13	1188.5	40.3	521	3	US-08-996-685-12
14	1134	38.4	469	2	US-08-989-478-10
15	1134	38.4	469	3	US-08-996-685-10
16	1087	36.8	621	4	US-09-551-778-2
17	1087	36.8	621	4	US-09-551-778-4
18	1060.5	35.9	591	4	US-09-519-232-66
19	1052.5	35.7	397	2	US-08-989-478-14
20	1052.5	35.7	397	3	US-08-996-685-14
21	1045.5	35.4	609	4	US-09-569-804-11
22	1045	35.4	609	4	US-09-569-804-10
23	1031	34.9	586	4	US-09-519-232-8
24	1009	34.2	574	4	US-09-519-232-70
25	995	33.7	475	4	US-09-569-804-4
26	971.5	32.9	601	4	US-09-519-232-18
27	844.5	28.6	409	4	US-09-569-804-21

28	825	27.9	217	4	US-09-519-232-46
29	823	27.9	219	4	US-09-519-232-30
30	782.5	26.5	381	4	US-09-569-804-17
31	751	25.4	261	2	US-08-989-478-16
32	751	25.4	261	3	US-08-996-685-16
33	678	23.0	369	4	US-09-519-232-74
34	644	21.8	165	4	US-09-519-232-38
35	614	20.8	165	4	US-09-519-232-40
36	599	20.3	165	4	US-09-519-232-42
37	502.5	17.0	180	4	US-09-569-804-35
38	495	16.7	165	4	US-09-519-232-58
39	485	16.4	165	4	US-09-519-232-32
40	477	16.2	165	4	US-09-519-232-34
41	470	15.9	165	4	US-09-519-232-48
42	461.5	15.6	158	4	US-09-519-232-50
43	450	15.2	165	4	US-09-519-232-44
44	441	14.9	165	4	US-09-519-232-56
45	425.5	14.4	166	4	US-09-519-232-54

ALIGNMENTS

RESULT 1  
US-09-519-232-4  
; Sequence 4, Application US/09519232  
; Patent No. 6528702  
; GENERAL INFORMATION:  
; APPLICANT: Salmeron, John  
; APPLICANT: Weiolo, Laura  
; APPLICANT: Willits, Michael  
; APPLICANT: Mengiste, Testaye  
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF  
; FILE REFERENCE: S-30857A/RTP2095  
; CURRENT APPLICATION NUMBER: US/09/519,232  
; CURRENT FILING DATE: 2000-03-06  
; NUMBER OF SEQ ID NOS: 74  
; SOFTWARE: Patent In Ver. 2.1  
; SEQ ID NO 4  
; LENGTH: 576  
; TYPE: PRT  
; ORGANISM: Lycopersicon esculentum  
US-09-519-232-4

Query Match	58.8%;	Score	1737;	DB	4;	Length	576;
Best Local Similarity	59.9%;	Pred. No.	9.5e+169;				
Matches	349;	Conservative	94;	Mismatches	108;	Indels	32;
		Gaps					8;
Qy	11	AFSDSDSAS	-----VEEGDADADADVEALRRLLSDNLAAP-RSPEDAFADARIAPV	62			
Db	6	AFSDSDISGSSSICCMNESL-ADVNSUKRLSETLESIPDASAPDFFADAKLAP	64				
Qy	63	GGGGGGDLRVHRCVLSARSPFLRGVFARRAAAAAGGGGGEDGSRLERLGGGEEVE	122				
Db	65	----GGKEIPVHRCILSARSPFFKNVFC-----GKDSSTKLELKELM----	106				
Qy	123	VGYEARLVLVDLYSGRVGDLPKAACLCVDECAHVGHCPAVAFMAQVLFPAASTFQVABL	182				
Db	107	VSFDAVSVLAYLYSGKVRPASKDVCVCDNECLHVACRPVAFPMQVLYASFTEQISOL	166				
Qy	183	TNLFORLLDVLDKVEVDNLLILSVANLCHKSCMKLERCLDMVVRNLDMLTLEKSLP	242				
Db	167	VDFQRLHLLDLDKAVADDDVMVLVANICGACERLLSRCIDIIIVKSNVDIITDKSLP	226				
Qy	243	PDVTKQIIDARLSGLISPENKGFPHVRIHRALDSDVVELVRLMLTEGOTNLDADA	302				
Db	227	HDIVQIITDSRAELGQFPESNGPDKHVKKIHRALDSDVVELLRLMLKEGHTLDDAYA	286				
Qy	303	LHYAVEHCDSKITTELLDALADVNHNRNPRGYTVLHTAARRREP KIIIVSLITKGARPA	362				
Db	287	LHYAVAYCDAKTTAEALLDLSADVNHNQPRGHTVLHVAAMRKEPKIIIVSLITKGARPS	346				
Qy	363	TFDGRKAVQISKRLLTKQGDYFGVTEEGKPSPKDRLCTBILEQAERDDQLGEASVSLA	422				

Db 347 TSDGKALQIAKRLRLVDFTKSTEKSAKPRDLICIELLEQAERDDPLLGEASLSLAMA 406  
QY 423 GSSLGRLLYLENRVALARIMFPMEARVAMDTAQVDGTFLEFNLSGANPPPERQRTTVDL 482  
Db 407 GDDLRLKLLYLENRVGLAKLLFPMEAKVAMDTAQVDGTSSELPLASMRKKIADAOQTVDL 466  
QY 483 NESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIM--DDTDPVSLGRDTSAE-- 538  
Db 467 NEAPFIMKEEHLNRRLALSRVTELGRFPFRCSNVLDKIMDDADDLSEIAYMGNDIVBERQ 526  
QY 539 -KRKFPHDLQVLOKAFHEKEDNDRSGLSSSSSSSTSGAIRP 580  
Db 527 LKKQRYMELQELSKAFTEDEKFAKTNMSSSCSSTSGVDPK 569  
RESULT 2  
US-09-519-232-2  
; Sequence 2, Application US/09519232  
; Patent No. 6528702  
; GENERAL INFORMATION:  
; APPLICANT: Salmeron, John  
; APPLICANT: Weislo, Laura  
; APPLICANT: Willits, Michael  
; APPLICANT: Mengiste, Tesfaye  
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF  
; FILE REFERENCE: S-30857A/RTP2095  
; CURRENT APPLICATION NUMBER: US/09/519,232  
; CURRENT FILING DATE: 2000-03-06  
; NUMBER OF SEQ ID NOS: 74  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 2  
; LENGTH: 588  
; TYPE: PRT  
; ORGANISM: Nicotiana tabacum  
US-09-519-232-2

Query Match 56.7%; Score 1672.5; DB 4; Length 588;  
Best Local Similarity 56.8%; Pred. No. 3,9e-162;  
Matches 336; Conservative 102; Mismatches 119; Indels 35; Gaps 8;  
QY 11 AFSDDSDASVEE-----GDADADADVEALRLRLSNLAAAF-RSPEDAFPLAD 56  
Db 7 AFSDDSDISGSSICIGGGMTEFFSPETSPAETISLKRISLSETLSIFDASLPEDYFAD 66  
QY 57 ARTAVPGGGGGDLRVHRCVLSARSFPLRGVFAFAAAAAGGGDGERLELELLGG 116  
Db 67 AKLVV---SGPCKEIPVHRCILSARSPPFNLF-FC-----GKKEKNSKVELKEVM-- 113  
QY 117 GGEVEVGYEALRLVLDLYLSGRVGDLPKAACLVDDEDCAHVCHGHPAVAFMAQVLPAAST 176  
Db 114 --KEHEVSYDAVMSLAYLSYSGVVRPSKDVCCVVDNDCHSHVACRPVAFVLEVLYTSPT 171  
QY 177 FOVAELTNLFQRLLDLVLDKVEVDNLLILSVANLCKNSCKMLERCLDMVVRSLNMDIT 236  
Db 172 FOISELVDFQRLHLLDILDKTAADYVMVLSVANIICGKACERLLSSCIEIIVKSNVDIIT 231  
QY 237 LEKSLPPDVKIQTIDARLSGLISPENKGFPMKHVRIHRLDSDDDVELVRLMTEGQTN 296  
Db 232 LDKALPHDVIVKQITDSRAELGLQGPESNGFPDKVRIHRLDSDDDVELVRLMTEGHT 291  
QY 297 LDDAFALHVAVEHCDISKITTELDLADLVNHRNPRGYTVLHIAARRRPEKPIIVSLLTKG 356  
Db 292 LDDAFALHVAVCDAKTAELDLADLVNHRNPRGYTVLHVAAMRKEPKIVVSLTKG 351  
QY 357 ARPADTVFGRKAVQISKRITKQDGYFGVTEEGKPSKDRLCIEILEQAERDPQLGEAS 416  
Db 352 ARPSDLTSDGRKALQIAKRLVDFSKPEEKSSANDRLRCIEILEQAERDPLLGEAS 411  
QY 417 VSLMAGESLURGLLYENRVALARIMFPMEARVAMDTAQVDGTFLEFNLSGANPPPERQ 476  
Db 412 VSLMAGDDLRLKLLYLENRVGLAKLLFPMEAKVAMDTAQVDGTSSEFPLASIGKMANAQ 471

QY 477 RTTVLDNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIM--DDTDPVSLGRD 534  
Db 472 RTTVLDNEAPFKIEEHLNRRLALSRVTELGRFPFRCSNVLDKIMDDADDLSEIAYMGND 531  
QY 535 TSAE---KRKFPHDLQVLOKAFHEKEDNDR-SGLSSSSSSSTSGAIRP 582  
Db 532 TAERQLKQRYMELQELSKAFTEDEKFAKTNMSSSCSSTSGVDPKPK 583  
RESULT 3  
US-09-519-232-64  
; Sequence 64, Application US/09519232  
; Patent No. 6528702  
; GENERAL INFORMATION:  
; APPLICANT: Salmeron, John  
; APPLICANT: Weislo, Laura  
; APPLICANT: Willits, Michael  
; APPLICANT: Mengiste, Tesfaye  
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF  
; FILE REFERENCE: S-30857A/RTP2095  
; CURRENT APPLICATION NUMBER: US/09/519,232  
; CURRENT FILING DATE: 2000-03-06  
; NUMBER OF SEQ ID NOS: 74  
; SOFTWARE: PatentIn Ver. 2.1  
; SEQ ID NO 64  
; LENGTH: 604  
; TYPE: PRT  
; ORGANISM: Beta vulgaris  
US-09-519-232-64

Query Match 55.2%; Score 1629; DB 4; Length 604;  
Best Local Similarity 57.4%; Pred. No. 1.2e-157;  
Matches 343; Conservative 81; Mismatches 130; Indels 44; Gaps 10;  
QY 11 AFSDDSDAS-----VVEGDADADADVEALRLRLSNLAAAF---SPED 50  
Db 15 AFSDDSDISGSSICCVAAATTTTAAENSLSTFPDAAALLRLSENLSLFPQPSLSLD 74  
QY 51 FAFADARIAPVGGGGGGDLRVHRCVLSARSFPLRGVFAFAAAAAGGGDGER--- 107  
Db 75 SDSFADAKIVV---SGDSREVAHRCVLSRSSSPFRSAFASKREKEK----ERDKERVVK 127  
QY 108 LELBELGGGEEVEGYEALRLVLDLYLSGRVGDLPKAACLVDDEDCAHVCHGHPAVAFM 167  
Db 128 LELKDLAG---DVEVGFDSVAVGLYSGVRLNLPKICVVDDEDCHACRPVDFV 183  
QY 168 AQVLPAASTFOVAELTNLFQRLLDLVLDKVEVDNLLILSVANLCKNSCKMLERCLDMV 227  
Db 184 VEVLYLHKFPELVELVSLYQRLHLLDILDKIAPDDVVLVLSVAEMCGNACDGLARCDKI 243  
QY 228 VRSNLDMITLEKSLPPDVVKIQTIDARLSGLISPENKGFPMKHVRIHRLDSDDDVELVR 287  
Db 244 VRSDIDVTIDKSLPQNVVKQIITRKLGFTEPGRVFPPDKVKRIHRALESDDVELVR 303  
QY 288 MLLTEGQTNLDDAFALHVAVEHCDISKITTELDLADLVNHRNPRGYTVLHIAARRRPEK 347  
Db 304 MLLKERHTTDDAFALHVAVEHCDISKITTELDLADLVNHRNPRGYTVLHIAARRRPEK 363  
QY 348 ITVSLTLTKGARPADTVFGRKAVQISKRITKQDGYFGVTEEGKPSKDRLCIEILEQAER 407  
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QY 408 RDPQGEASVSLMAGESLURGLLYENRVALARIMFPMEARVAMDTAQVDGTFLEFNLS 467  
Db 424 REPLLGEASVSLAKAGDDLRLKLLYLENRVALARIMFPMEARVAMDTAQVDGTSFTLSK 483  
QY 468 GANPPPERQRTTVLDNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIM--DE 525  
Db 484 NT---ADARRNAVLDNEAPFKIEEHLNRRLALSRVTELGRFPFRCSNVLDKIMDAEDL 540  
QY 526 TDPVSLGRDTSAE---KRKFPHDLQVLOKAFHEKEDNDRSGLSSSSSSSTSGAIRP 580  
Db 541 SQLAFGLKQTPBERKQKRVLELQDALTKAFTEDKEEFDRLSTLSSSSSSSTPMG--RP 596



PRIOR APPLICATION DATA: US 60/034,379  
FILING DATE: 27-DEC-1996  
PRIOR APPLICATION DATA: US 60/034,382  
FILING DATE: 27-DEC-1996  
PRIOR APPLICATION DATA: US 60/034,730  
FILING DATE: 10-JAN-1997  
PRIOR APPLICATION DATA: US 60/035,021  
FILING DATE: 10-JAN-1997  
PRIOR APPLICATION DATA: US 60/035,022  
FILING DATE: 10-JAN-1997  
PRIOR APPLICATION DATA: US 60/035,024  
FILING DATE: 10-JAN-1997  
PRIOR APPLICATION DATA: US 08/875,015  
FILING DATE: 16-JUL-1997  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: PF/5-21215/PI/CGC1912  
TELEPHONE: (919) 541-8587  
TELEFAX: (919) 541-8689  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 593 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-996-685-2

Query Match 43.2%; Score 1276; DB 3; Length 593;  
Best Local Similarity 47.2%; Pred. No. 1.5e-121;  
Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;

QY 5 TSHVTNAPSDDSASVEEGDADADVEALRRLSNLAAPRSPEDFAFLADARIAVPGG 64  
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QY 65 GGGGDLRVHRCVLSARSPFLRGVFAARRAAAAGGGEDGSRRLRLRLGGGGEVEVG 124  
DB 72 -SDGREVSPHRCVLSARSPFLRGVFAARRAAAAGGGEDGSRRLRLRLGGGGEVEVG 124  
QY 125 YEALRLVLDLYSGRVDLPKAAACLVDEDCAHVGHCHPAVAFMAQVLFPAASTFOVABL 184  
DB 125 FDSVTVTLAYVYSSRVPPKGVSECADENCCCHVACRPVDFMFLVLAFLFIKIPELIT 184  
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DB 185 LQORHLDDVVDKVIETDLVILKLANICGAKCMKLLDRCKEIIIVKSNVDMVMSLEKSLPEE 244  
QY 245 VIKQIIDARLSGLISPENKGFPHKVRRIHRALEDSDVVELYRMLLTGQNTLDDAFALH 304  
DB 245 LVKEIIDRRKELGLEVPVKV---KHVSNVHKAALSDDEIYVKKLLKEDHTNLDACALH 300  
QY 305 YAVEHCDSKITTEILDALADNVHNRPRGYTVLHIAARRRPEKIIIVSLITKGARADVTF 364  
DB 301 FAVAYCNVKTATDILLKLDADNVHNRPRGYTVLHIAARRRPEKIIIVSLITKGARADVTF 360  
QY 365 DGRKAVQISKRLTKQDYGVTVEGKPKPDKRLCTEILEQARRDPQGEASVSLAMAGE 424  
DB 361 EGTALMTAKQATMAVECNINPEQCKHSLKGLCVLEIIEQEDKRCQIPRDVPPPSFAVAD 420  
QY 425 SURGLLYLENVALARINFPMEARVAMIDIAQVGTLEFNLGSGGANPPPER----QRTTV 480  
DB 421 ELKMTLLDENVALAQRLLFPTEQAAMEIABMKGTCEFIVTS---LEPDRLLTGKRTSP 477  
QY 481 DLNESFFIMKEEHLARMTALSKTVELGKRFPPRCNSVLDKIMD-DETPVSLGRDTSAEK 539

DB 478 GVKIAPFRILEEHQSRKALSKTVELGKRFPPRCNSVLDQIMNCEDLTQLACGDDTAEK 537  
QY 540 R-----KRFHLDQVLRQAFHEDKEENDRSGLSSSSSSSTS 574  
DB 538 RLQKKQRYMEIQETLKKAFFSEDNLELGNSSLTDSSTS 576

RESULT 6  
US-08-880-179-3  
Sequence 3, Application US/08880179  
Patent No. 6091004  
GENERAL INFORMATION:  
APPLICANT: Ryals, John  
APPLICANT: Delaney, Terry  
APPLICANT: Friedrich, Leslie  
APPLICANT: Weymann, Kristianna  
APPLICANT: Lawton, Kay  
APPLICANT: Ellis, Daniel  
APPLICANT: Uknes, Scott  
APPLICANT: Jesse, Taco  
APPLICANT: Vos, Pieter  
TITLE OF INVENTION: GENE ENCODING A PROTEIN INVOLVED IN THE  
TITLE OF INVENTION: SIGNAL TRANSDUCTION CASCADE LEADING TO SYSTEMIC ACQUIRED RESIS  
TITLE OF INVENTION: IN PLANTS  
NUMBER OF SEQUENCES: 17  
CORRESPONDENCE ADDRESS:  
STREET: No. 6091004artis Corporation  
CITY: Tarrytown  
STATE: New York  
COUNTRY: USA  
ZIP: 10591  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Floppy disk  
COMPUTER: IBM PC compatible  
OPERATING SYSTEM: PC-DOS/MS-DOS  
SOFTWARE: Patentin Release #1.0, Version #1.30  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/08/880,179  
FILING DATE:  
CLASSIFICATION: 800  
ATTORNEY/AGENT INFORMATION:  
NAME: Meigs, J. Timothy  
REGISTRATION NUMBER: 38,241  
REFERENCE/DOCKET NUMBER: CGC 1909  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: (919) 541-8587  
TELEFAX: (919) 541-8689  
INFORMATION FOR SEQ ID NO: 3:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 593 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-880-179-3

Query Match 43.2%; Score 1276; DB 3; Length 593;  
Best Local Similarity 47.2%; Pred. No. 1.5e-121;  
Matches 273; Conservative 113; Mismatches 165; Indels 28; Gaps 9;

QY 5 TSHVTNAPSDDSASVEEGDADADVEALRRLSNLAAPRSPEDFAFLADARIAVPGG 64  
DB 17 TSFVATDNTDSSIVYLAARQVLTGPDVSALQLLSNFSFVSFDPD--FYSDAKLVL--- 71  
QY 65 GGGGDLRVHRCVLSARSPFLRGVFAARRAAAAGGGEDGSRRLRLRLGGGGEVEVG 124  
DB 72 -SDGREVSPHRCVLSARSPFLRGVFAARRAAAAGGGEDGSRRLRLRLGGGGEVEVG 124  
QY 125 YEALRLVLDLYSGRVDLPKAAACLVDEDCAHVGHCHPAVAFMAQVLFPAASTFOVABL 184  
DB 125 FDSVTVTLAYVYSSRVPPKGVSECADENCCCHVACRPVDFMFLVLAFLFIKIPELIT 184

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Qy 185 LFORLLDVLQKVEVDNLLILSVANLCNCKMCLLRLDMVRSNLDMLTLEKSLPPD 244
Db 185 LYQRHLLDVLQKVEVDNLLILSVANLCNCKMCLLRLDMVRSNLDMLTLEKSLPPD 244
Qy 245 VIKQIIDARLSIGLISPNKGFPPNKHVRRIRHALDSDVVELVRLMLLTGTQNLDDAFALH 304
Db 245 LVKEIIDRRKELGLEVPKV-----KHVSNVHKALSDSDIELVKULLKEDHTNLDACALH 300
Qy 305 YAVEHCDSKITTELLDALADVNHRNPRGYTVLHIAARRRREPKEIVSLTTKGARPAVDVTF 364
Db 305 YAVEHCDSKITTELLDALADVNHRNPRGYTVLHIAARRRREPKEIVSLTTKGARPAVDVTF 364
Qy 301 FAVAYCNVKTATDLKLADVNHRNPRGYTVLHVAAMRKEPQLTSLLEKGAASEATL 360
Db 301 FAVAYCNVKTATDLKLADVNHRNPRGYTVLHVAAMRKEPQLTSLLEKGAASEATL 360
Qy 365 DGRKAVQISKRLTKQDYGFGYTEEGKPSKDLRCIEILEQAERRDPQLGEASVSLAMAGE 424
Db 365 DGRKAVQISKRLTKQDYGFGYTEEGKPSKDLRCIEILEQAERRDPQLGEASVSLAMAGE 424
Qy 361 EGRTALMIAKQATWAVECNIPEQCKHSLKRLCVELLEQEDKREQIPRDVPPPSFAVAAD 420
Db 361 EGRTALMIAKQATWAVECNIPEQCKHSLKRLCVELLEQEDKREQIPRDVPPPSFAVAAD 420
Qy 425 SLRGRLLYLENRVALARIMFMEARVAMDIAQVDTGLEFNLGSGANPPPER-----QRTTV 480
Db 425 SLRGRLLYLENRVALARIMFMEARVAMDIAQVDTGLEFNLGSGANPPPER-----QRTTV 480
Qy 421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGKRTSP 477
Db 421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGKRTSP 477
Qy 481 DLNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 539
Db 481 DLNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 539
Qy 478 GVKIAPFRILEEHQSRKALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 537
Db 478 GVKIAPFRILEEHQSRKALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 537
Qy 540 R-----KRFDLQDVLOKAFHEDKEENDRSGLSLSSSSSTS 574
Db 540 R-----KRFDLQDVLOKAFHEDKEENDRSGLSLSSSSSTS 574
Qy 538 RLQKKQRYMEIQETLKKAFSEDNLELGNLSLTDSTSTS 576
Db 538 RLQKKQRYMEIQETLKKAFSEDNLELGNLSLTDSTSTS 576

RESULT 7
US-08-989-478-8
; Sequence 8, Application US/08989478
; Patent No. 5986082
; GENERAL INFORMATION:
; APPLICANT: Hunt, Scott
; APPLICANT: Kunes, Michelle
; APPLICANT: Steiner, Henry-York
; APPLICANT: Ryals, John
; TITLE OF INVENTION: ALTERED FORMS OF THE NIM1 GENE CONFERRING
; TITLE OF INVENTION: DISEASE RESISTANCE IN PLANTS
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: No. 5986082artis Corporation
; STREET: 3054 Cornwalis Road
; CITY: Research Triangle Park
; STATE: No. 5986082th Carolina
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/989,478
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/033,177
; FILING DATE: 13-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,379
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,382
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,730
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,021
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
```

```
; APPLICATION NUMBER: US 60/035,022
; FILING DATE: 10-JAN-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PP/5-21214/P1/CGC1911
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 593 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-478-8

Query Match 43.0%; Score 1270; DB 2; Length 593;
Best Local Similarity 47.0%; Pred. No. 6.4e-121;
Matches 272; Conservative 113; Mismatches 166; Indels 28; Gaps 9;

Qy 5 TSHVTNAPSDSDSASVEEGDADADADVEALRRRLSDNLAAAPRSPEDFAFLADARIAVGG 64
Db 17 TSPVATONTDSSIYVLAEEQVLTGPDVSAQLQLLSNFEAVFDAPDD--FYSDAKLVL--- 71
Qy 65 GGGGGDLRVHRCVLSARSPPFLRGVFARRAAAAAGCGGSDGSERLERLLELLGGGGEVEVG 124
Db 72 -SDGREVSFHRCVLSARSPPFKSALA--AAKKEKDSNNTAAVKLELKEI-----AKDYEVG 124
Qy 125 YEALRLVLVLYSGRVGDLPKAACLCVDEDCAHVGHCPAVAFMAQVLPFAASTFOVAELTN 184
Db 125 FDSVTVLAVYSGRVPPPGVSECADENCCHVACRPADVDFMLEVLVLAIFIKIPELIT 184
Qy 185 LFQRRLLDVLQKVEVDNLLILSVANLCNCKMCLLRLDMVRSNLDMLTLEKSLPPD 244
Db 185 LYQRHLLDVLQKVEVDNLLILSVANLCNCKMCLLRLDMVRSNLDMLTLEKSLPPD 244
Qy 245 VIKQIIDARLSIGLISPNKGFPPNKHVRRIRHALDSDVVELVRLMLLTGTQNLDDAFALH 304
Db 245 LVKEIIDRRKELGLEVPKV-----KHVSNVHKALSDSDIELVKULLKEDHTNLDACALH 300
Qy 305 YAVEHCDSKITTELLDALADVNHRNPRGYTVLHIAARRRREPKEIVSLTTKGARPAVDVTF 364
Db 305 YAVEHCDSKITTELLDALADVNHRNPRGYTVLHIAARRRREPKEIVSLTTKGARPAVDVTF 364
Qy 301 FAVAYCNVKTATDLKLADVNHRNPRGYTVLHVAAMRKEPQLTSLLEKGAASEATL 360
Db 301 FAVAYCNVKTATDLKLADVNHRNPRGYTVLHVAAMRKEPQLTSLLEKGAASEATL 360
Qy 365 DGRKAVQISKRLTKQDYGFGYTEEGKPSKDLRCIEILEQAERRDPQLGEASVSLAMAGE 424
Db 365 DGRKAVQISKRLTKQDYGFGYTEEGKPSKDLRCIEILEQAERRDPQLGEASVSLAMAGE 424
Qy 361 EGRTALMIAKQATWAVECNIPEQCKHSLKRLCVELLEQEDKREQIPRDVPPPSFAVAAD 420
Db 361 EGRTALMIAKQATWAVECNIPEQCKHSLKRLCVELLEQEDKREQIPRDVPPPSFAVAAD 420
Qy 425 SLRGRLLYLENRVALARIMFMEARVAMDIAQVDTGLEFNLGSGANPPPER-----QRTTV 480
Db 425 SLRGRLLYLENRVALARIMFMEARVAMDIAQVDTGLEFNLGSGANPPPER-----QRTTV 480
Qy 421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGKRTSP 477
Db 421 ELKMTLLDLENRVALAQRLFPTEAQAAMEIAEMKGTCEFIVTS---LEPDRLTGKRTSP 477
Qy 481 DLNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 539
Db 481 DLNESPFIMKEEHLARMTALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 539
Qy 478 GVKIAPFRILEEHQSRKALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 537
Db 478 GVKIAPFRILEEHQSRKALSKTVELGKRPFRCSNVLDKIMD-DETDVPSLGRDTSAEK 537
Qy 540 R-----KRFDLQDVLOKAFHEDKEENDRSGLSLSSSSSTS 574
Db 540 R-----KRFDLQDVLOKAFHEDKEENDRSGLSLSSSSSTS 574
Qy 538 RLQKKQRYMEIQETLKKAFSEDNLELGNLSLTDSTSTS 576
Db 538 RLQKKQRYMEIQETLKKAFSEDNLELGNLSLTDSTSTS 576

RESULT 8
US-08-996-685-8
; Sequence 8, Application US/08996685
; Patent No. 6031153
; GENERAL INFORMATION:
; APPLICANT: Ryals, John
; APPLICANT: Friedrich, Leslie
; APPLICANT: Kunes, Scott
; APPLICANT: Molina, Antonio
; APPLICANT: Rues, Wilhelm
; APPLICANT: Knaus-Beiter, Gertrude
```



```

; APPLICANT: Kung, Ruth
; APPLICANT: Kessmann, Helmut
; APPLICANT: Oostendorp, Michael
; TITLE OF INVENTION: METHOD FOR PROTECTING PLANTS
; NUMBER OF SEQUENCES: 32
; CORRESPONDENCE ADDRESS:
; ADDRESS: No. 6031153artis Corporation
; STREET: 3054 Cornwallis Road
; CITY: Research Triangle Park
; STATE: No. 6031153th Carolina
; COUNTRY: USA
; ZIP: 27709
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/996,685
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/761,543
; FILING DATE: 6-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,378
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,379
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,382
; FILING DATE: 27-DEC-1996
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/034,730
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,021
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,022
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 60/035,024
; FILING DATE: 10-JAN-1997
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/875,015
; FILING DATE: 16-JUL-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: Meigs, J. Timothy
; REGISTRATION NUMBER: 38,241
; REFERENCE/DOCKET NUMBER: PF/5-21215/P1/CGC1912
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (919) 541-8587
; TELEFAX: (919) 541-8689
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 593 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-996-685-8

Query Match 43.0%; Score 1270; DB 3; Length 593;
Best Local Similarity 47.0%; Pred. No. 6.4e-121;
Matches 272; Conservative 113; Mismatches 166; Indels 28; Gaps 9;

QY 5 TSHVTNAPSDDSASVEEGDADADVEALRRISDNLAAAFRSPEDFAFLADARIAVPGG 64
Db 17 TSFVATDNTSSIVLAAEQVLTGPDVSAQLQLLSNFSFAVFDAPDD--FVSDAKLVL--- 71
QY 65 GGGGDLRVHRCVLSARSPLRGVFAARRAAAGGGGDSERLELRELLGGGEEVEVG 124

72 -SDGREVSHRCVLSARSFFKSALA--AAKGEKSDNNNTAAVKLEKEI-----AKYEVG 124
125 YEALRLVLDVLYSGRVGDLPKAAACLVDEDCAHVGCHPAVAFMAQVLFRAASTFQVABL 184
125 FDSVVTVLAVYISRVPRPKGVSECADENCCHVACRPADVFMLEVLYLAFIKPELIIT 184
125 LFQRRLLDVLDKVEVDNLLILSVANLCKNSCKMLERCLDMVVRNSNLDITLKSPLPD 244
125 LYQRHLLDVEDVVKVIEDTLVLKLANICGKACMKLLDRCKEIIIVKSNVDMVSLKSLPEE 244
245 VIKQIDARLSGLISPEKGFNPKVRRTHRALDSDVELVRMLLTGEGOTNLDLDAFALH 304
245 LVKEIIDRRKELGLEVEPKV---KHSVNVHKALDSDDIELVKLLKEDHTNLDLDAALH 300
305 VAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKEIIVSLLTKGARPADVT 364
301 FAVAYCNVKTATDLLDLADVNHRNPRGYTVLHVAAMRKEPQLILSLEKGSASEATL 360
365 DGRKAVQISKRLTKQGYFGVTBEGKPSKDRICIEILQAEERDPOLGEASVSLAMAGE 424
361 EGR TALMIATQAOTMAVECNPIPEQCKHSLKGRCLVEIQEDKREQIPRDVPPPSFAVAAD 420
425 SLRGRILYLRVALARIMFMEARVAMDAQVDGTLLEFNLGSGANPPPER---QRTTV 480
421 ELKMTLLDLNLRVALAQRFPTEAQAAMETAEKGTCEFIYTS---LEPDLTGTKRTSP 477
481 DLNESPFIKKEEHLARMTALSKTVELGKFRFFPCSNVLDKIMD--DETDPVSLGRDRTAEK 539
478 GVKIAPRILEEHQSRKALKSKTVELGKFRFFPCSAVLQDQIMNCEDITQLACGDDTAEK 537
540 R-----KRFHLDQVLQKAFHEDKEENDRSGLSSSSSSTS 574
538 RLQKKORYMEIQETLKKAFSEDNLELGNLSLTDSTSTS 576

RESULT 9
US-09-519-232-6
; Sequence 6, Application US/09519232
; Patent No. 6528702
; GENERAL INFORMATION:
; APPLICANT: Salmeron, John
; APPLICANT: Weislo, Laura
; APPLICANT: Willits, Michael
; APPLICANT: Mengiste, Tesfaye
; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF
; FILE REFERENCE: S-30857A/RTF2095
; CURRENT APPLICATION NUMBER: US/09/519,232
; CURRENT FILING DATE: 2000-03-06
; NUMBER OF SEQ ID NOS: 74
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 6
; LENGTH: 579
; TYPE: PRT
; ORGANISM: Brassica napus
; US-09-519-232-6

Query Match 41.4%; Score 1222.5; DB 4; Length 579;
Best Local Similarity 45.9%; Pred. No. 4.5e-116;
Matches 260; Conservative 110; Mismatches 160; Indels 37; Gaps 10;

QY 14 DSDSASVEEGDADADADVEALRRISDNLAAAFRSPEDFAFLADARIAVPGGGGGDLRV 73
Db 27 NSGSTVXPTLXTRPEVSAPQLLSNLSVDFDSE--AFYSDAKLVL---SDDKEVSF 80
QY 74 HRCVLSARSPLRGVFAARRAAAGGGGDSERLELRELLGGGEEVEVEYEARLVLVD 133
Db 81 HRCILSARS-----LFFKAALXAAEKVKSTPKLELKT-----AAEYDVGDFSVAVLA 131
QY 134 YLYSGRVGDLPKAAACLVDEDCAHVGCHPAVAFMAQVLFRAASTFQVAEITNLFQRLLDV 193
Db 132 YYVSGRVPRPKGVSECADXCCHVACRPADVFMLEVLYLAFVFOQLVTVYQRHLLDV 191
QY 194 LDKVEVDNLLILSVANLCKNSCKMLERCLDMVVRNSNLDITLKSPLFPDVIKIIDAR 253
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Db 192 VDKVIEDTLVVLKLANICGKACKKLFKDKREIIIVKSNVDVVTLLKSLPEXIAQVIDIR 251  
Qy 254 LSLGLISPENKGFNPKHVRRIHRAALSDSDVELVRMLLTGEGTNLDDAFALHYAVEHCDCK 313  
Db 252 KELGLVAV-----PEKHSVNIHKALESDDDLVLMLLKEGHTNDEAVALLFAVAYCDEK 307  
Qy 314 ITTELDDALADVNRHNRPRGYTVLHIAARRPKIIVSLLTKGAPADVTDFGRKAVOIS 373  
Db 308 TARNLLELGFADVNRNRPRGYTVIHVAAMRKEPTLIALLLTKGANALESMDGRALLIA 367  
Qy 374 KRLTKQGDYFGVTERGKSPKDRLCIEILEQAER--RDPQLGEASVSLWAGESLGRLLY 432  
Db 368 KOVTKAABCC-ILEKGKLAAGGVCEILKOPDNTREPPEDVPSLVAADQFKIRLID 426  
Qy 433 LENRVALARIMPMPEARVAMDIAQVDGTLFNLGSGANPPPERQRTTVDLNEPPIKKEE 492  
Db 427 LENRVQMARCLYPMEAOVAMDFAFMKGTREVV-----TTATDLHMEPPKFFVEM 475  
Qy 493 HLARMTALSKVELGKRPFPKRCNVLDKIMDDDE--TDPVSLGRDT---SAEKRRPHDLQ 547  
Db 476 HQSRLTALSKTVEFGKRPFPKRCNVLDKIMDDDE--TDPVSLGRDT---SAEKRRPHDLQ 547  
Qy 548 DVLOKARHEDKEENDRSLGSSSSSTS 574  
Db 536 EIVQWAFSKOKEDLGKSLASSSSTS 562

## RESULT 10

US-09-519-232-20

; Sequence 20, Application US/09519232

; Patent No. 6528702

; GENERAL INFORMATION:

; APPLICANT: Salmeron, John

; APPLICANT: Weislo, Laura

; APPLICANT: Willits, Michael

; APPLICANT: Mengiste, Tesfaye

; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF

; FILE REFERENCE: S-30857A/RTP2095

; CURRENT APPLICATION NUMBER: US/09/519,232

; CURRENT FILING DATE: 2000-03-06

; NUMBER OF SEQ ID NOS: 74

; SOFTWARE: Patentin Ver. 2.1

; SEQ ID NO 20

; LENGTH: 600

; TYPE: PRT

; ORGANISM: Arabidopsis thaliana

US-09-519-232-20

Query Match 41.1%; Score 1213.5; DB 4; Length 600;

Best Local Similarity 45.8%; Pred. No. 3.9e-115;

Matches 277; Conservative 105; Mismatches 172; Indels 51; Gaps 17;

Qy 1 MEPTSHVTNAPSDSDSASVEGD-----ADADAD-----VEALRRSLDNLAAPR 46  
Db 1 MATTTTTTARFSDSYEFNTSGNSFFAAESSLDYPTFTLTPPEVSALKLLSNCLESVFD 60  
Qy 47 SPEDFAFLADARIAVPGGGGGDLRVHRCVLSARSFPLRGVFAARRAAAAGGGEDGSE 106  
Db 61 SPE--TFYSDAKLVL-----AGGREVSFHRCLISARIP-----VF-KSALATVKEQKSSITV 109  
Qy 107 RLEARELLGGGEEVEVGEALRLVLDLYSGRVDLPKAAACLCVDEDCAHVGHCPAVAF 166  
Db 110 KLQKLEI-----ARDYEVGDSVVAVLAYVYSGRVSPPKGSACVDDDCCHVACRSKVDF 165  
Qy 167 MAQVLPAASTFQVAELTNLFORLLDVLKVEVDNLLILSVANLCKNSCKMLLRCCLDM 226  
Db 166 MVEVLVLSFVFQIQLVTLYERQFLIEVDKVVVEDILVIFKLDTLGGTYKKLLDRCIEI 225  
Qy 227 VVRNLDMTLTKSLPPDVIKQIIDARLSGLISPENKGFNPKHVRRIHRAALSDSDVELV 286  
Db 226 IVKSDIELVLSLEKSPQHIFKQIIDREALCLEPPKLE-----RHVKNIYKALDSDDELV 281

Qy 287 RMLLTGQTNLDDAFALHYAVEHCDCKITTELLDLALADVNRHNRPRGYTVLHIAARRRP 346  
Db 282 KMLLLEHTNLDEAYALHFAIAHCAVKATAVDLLELEADVNLNRPRGYTVLHVAAMRKEP 341  
Qy 347 KIIIVSLTKGAPADVTDFGRKAVOISKRLTKQGDYFGVTEEGKSPKDRLCIEILEQAER 406  
Db 342 KLIISLLMKGANILDTTLDGRTALVIVKRLTKADDTYKSTEDGTPSLKGGLCIEVLEH-E 400  
Qy 407 RRDPLG--EASVSLWAGESLGRLLYLYENRVALARIMPMPEARVAMDIAQVDGTLBPN 464  
Db 401 QKLEYLSPIEASLSLPTPEELRMLLYENRVALARLLPPVETETVQGIKLBETCEFT 460  
Qy 465 LGSGANPPPE--RQRTTVDLNEPPIKKEHARMTALSKTVELGKRPFPKRCNVLDKIM 522  
Db 461 -ASSLEPDHIGEKRTSLDNLNMAFQIHEKLSRLCALCKTVELGKRYFKCS--LDHFM 517  
Qy 523 DDE--TDPVSLGRDT---SAEKRRPHDLQVDVLOKAFHEKDEENDRSLGSSSSSTSIGA 577  
Db 518 DTEDLNHLASVEEDTPEKRLQKQRYMELQETLMKTFSEDKEE--CGKSSTPKPTS--A 572  
Qy 578 IRPRR 582  
Db 573 VRSNR 577

## RESULT 11

US-09-519-232-72

; Sequence 72, Application US/09519232

; Patent No. 6528702

; GENERAL INFORMATION:

; APPLICANT: Salmeron, John

; APPLICANT: Weislo, Laura

; APPLICANT: Willits, Michael

; APPLICANT: Mengiste, Tesfaye

; TITLE OF INVENTION: NOVEL PLANT GENES AND USES THEREOF

; FILE REFERENCE: S-30857A/RTP2095

; CURRENT APPLICATION NUMBER: US/09/519,232

; CURRENT FILING DATE: 2000-03-06

; NUMBER OF SEQ ID NOS: 74

; SOFTWARE: Patentin Ver. 2.1

; SEQ ID NO 72

; LENGTH: 601

; TYPE: PRT

; ORGANISM: Arabidopsis thaliana

US-09-519-232-72

Query Match 41.1%; Score 1213.5; DB 4; Length 601;

Best Local Similarity 45.8%; Pred. No. 4e-115;

Matches 277; Conservative 105; Mismatches 172; Indels 51; Gaps 17;

Qy 1 MEPTSHVTNAPSDSDSASVEGD-----ADADAD-----VEALRRSLDNLAAPR 46  
Db 2 MATTTTTTARFSDSYEFNTSGNSFFAAESSLDYPTFTLTPPEVSALKLLSNCLESVFD 61  
Qy 47 SPEDFAFLADARIAVPGGGGGDLRVHRCVLSARSFPLRGVFAARRAAAAGGGEDGSE 106  
Db 62 SPE--TFYSDAKLVL-----AGGREVSFHRCLISARIP-----VF-KSALATVKEQKSSITV 110  
Qy 107 RLEARELLGGGEEVEVGEALRLVLDLYSGRVDLPKAAACLCVDEDCAHVGHCPAVAF 166  
Db 111 KLQKLEI-----ARDYEVGDSVVAVLAYVYSGRVSPPKGSACVDDDCCHVACRSKVDF 166  
Qy 167 MAQVLPAASTFQVAELTNLFORLLDVLKVEVDNLLILSVANLCKNSCKMLLRCCLDM 226  
Db 167 MVEVLVLSFVFQIQLVTLYERQFLIEVDKVVVEDILVIFKLDTLGGTYKKLLDRCIEI 226  
Qy 227 VVRNLDMTLTKSLPPDVIKQIIDARLSGLISPENKGFNPKHVRRIHRAALSDSDVELV 286  
Db 227 IVKSDIELVLSLEKSPQHIFKQIIDREALCLEPPKLE-----RHVKNIYKALDSDDELV 282  
Qy 287 RMLLTGQTNLDDAFALHYAVEHCDCKITTELLDLALADVNRHNRPRGYTVLHIAARRRP 346  
Db 283 KMLLLEHTNLDEAYALHFAIAHCAVKATAYDLELELEADVNLNRPRGYTVLHVAAMRKEP 342

347 KLIIVLLTKGAPADVTGDKAVOISKRLTKQDYGFTGTEGKPSKDRCLCIBILEQAE 406  
343 KLIISLMKGANILDTTDRALVIVKRLTKADDTKSTEDGTPSLKGGICIEVLEH-E 401  
407 RRDPOIG--EASVSLAMAGESLGRLLYLENRVALARIMFPMEARVAMDIQVDTGLEFN 464  
402 QKLEVLSPLEASLSLPVPEELRMELLYENRVALARLLFPVETVQGIKLEETCEFT 461  
465 LGSANPPPE--RQRTVDLNSPIMKEBHARMTALSKTVELGKRPFRCSNVLDKIM 522  
462 -ASSLEPDHIGKXTSLDLNAPFQIHEKHLRRLALCKTVELGKRYFKCS--LDHFM 518  
523 DDE--TDPVSLGRDT---SAEKRRFHDLOVLOKAFHEDKEENDRSLGSSSSSSTIGA 577  
519 DTDENHLASVEDTPEKRLQKQRYRMELQETLMKTFSEDKEE---CGKSTPKPTS--A 573  
578 IRPRR 582  
574 VRSNR 578  
Db  
RESULT 12  
US-08-989-478-12  
; Sequence 12, Application US/08989478  
; Patent No. 5986082  
; GENERAL INFORMATION:  
; APPLICANT: Uknes, Scott  
; APPLICANT: Hunt, Michelle  
; APPLICANT: Steiner, Henry-York  
; APPLICANT: Ryals, John  
; TITLE OF INVENTION: ALTERED FORMS OF THE NIM1 GENE CONFERRING  
; TITLE OF INVENTION: DISEASE RESISTANCE IN PLANTS  
; NUMBER OF SEQUENCES: 32  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: No. 5986082artis Corporation  
; STREET: 3054 Cornwallis Road  
; CITY: Research Triangle Park  
; STATE: No. 5986082th Carolina  
; COUNTRY: USA  
; ZIP: 27709  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: PatentIn Release #1.0, Version #1.30  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/08/989,478  
; FILING DATE:  
; CLASSIFICATION:  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/033,177  
; FILING DATE: 13-DEC-1996  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/034,379  
; FILING DATE: 27-DEC-1996  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/034,382  
; FILING DATE: 27-DEC-1996  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/034,730  
; FILING DATE: 10-JAN-1997  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/035,021  
; FILING DATE: 10-JAN-1997  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: US 60/035,022  
; FILING DATE: 10-JAN-1997  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Meigs, J. Timothy  
; REGISTRATION NUMBER: 38,241  
; REFERENCE/DOCKET NUMBER: PF/5-21214/P1/CGC1911  
; TELECOMMUNICATION INFORMATION:

TELEPHONE: (919) 541-8587  
TELEFAX: (919) 541-8689  
INFORMATION FOR SEQ ID NO: 12:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 521 amino acids  
TYPE: amino acid  
TOPOLOGY: linear  
MOLECULE TYPE: protein  
US-08-989-478-12  
Query Match 40.3%; Score 1188.5; DB 2; Length 521;  
Best Local Similarity 48.0%; Pred. No. 1.le-112;  
Matches 251; Conservative 100; Mismatches 149; Indels 23; Gaps 7;  
QY 5 TSHVTNAPSDDSASVEEGDADADAVEALRRLRSDNLAAFRSPEDPAFLADARIAPGG 64  
Db 17 TSFVATDNTDSSIVYLAEEQVLTPGDVSALQQLSSPESVFDSPDD--FYSDAKLVL--- 71  
QY 65 GGGGDLRVHRCVLSARSPTLRGVFARRRAAAAGGGGDSERLELRLLGGGEEVEVG 124  
Db 72 -SDGREVSPHRCVLSARSFFKSALA--AAKKEKDSNNTAAVKLEKEI-----AKDYEVG 124  
QY 125 YEALRLVLDLYSGRVGDLPKAACLCVDEDCAHVGHCHPAVAFMAQVLFPAASTFOVABLTN 184  
Db 125 FDSVTVTLAVYVSERVPPPKGVSECADENCCHVACRPADVDFMLEVLYLAFIPKIPELIT 184  
QY 185 LFORLLDVLQKVEVDNLLILSVANLCNKSCKMLERCLDMVYRSNLDMLTLEKSLPPD 244  
Db 185 LYQRHLDDVVDKVVIEDTLVILKLANICGKACMKLLDRCKEIIIVKSNVDMVSLSEKSPBE 244  
QY 245 VIKOIIDARLSGLISPENKGFNKHVRRIHRAALDSDVELVRMLLTGEGOTNLDLDAFALH 304  
Db 245 LVKSIIDRRKELGLEVPKV-----KHVSNVHKALDSDDIELVLLKXEDHTNLDACALH 300  
QY 305 YAVEHCDSKITTELLDLALADVNHRNPRGYTVLHIAARRREPKEIIVSLITKGARPAVTF 364  
Db 301 FAVAYCNVKTATLLKLDLADVNHRNPRGYTVLHVAAMRKEPQLISLLEKASASEATL 360  
QY 365 DGRKAVQISKRLTKQDYGFTGTEGKPSKDRCLCIBILEQAEERDPOLGEASVSLAMAGE 424  
Db 361 EGRALMIKQATWAVECNPIEQCKHSLKRLCVELLEQEDKREQIPRDVPPSFVAAD 420  
QY 425 SLRGLLYLENRVALARIMFPMEARVAMDIQVDTGLEFNIGSGANPPPER---QRTTV 480  
Db 421 ELKMTLLDENRVALAQRLFFTEAQAAMEIAEMKGTCEFIPTS--LEPDLTGTGRTSP 477  
QY 481 DINESPPIKMEHRLMARTALSKTVELGKRPFRCSNVLDKIMD 523  
Db 478 GVKIAPFRILBEHOSRLKALSKTVELGKRPFRCSNVLDQIMN 520  
RESULT 13  
US-08-996-685-12  
; Sequence 12, Application US/08996685  
; Patent No. 6031153  
; GENERAL INFORMATION:  
; APPLICANT: Ryals, John  
; APPLICANT: Friedrich, Leslie  
; APPLICANT: Uknes, Scott  
; APPLICANT: Molina, Antonio  
; APPLICANT: Ruess, Wilhelm  
; APPLICANT: Knauf-Beiter, Gertrude  
; APPLICANT: Kung, Ruth  
; APPLICANT: Kessmann, Helmut  
; APPLICANT: Costendorp, Michael  
; TITLE OF INVENTION: METHOD FOR PROTECTING PLANTS  
; NUMBER OF SEQUENCES: 32  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: No. 6031153artis Corporation  
; STREET: 3054 Cornwallis Road  
; CITY: Research Triangle Park  
; STATE: No. 6031153th Carolina  
; COUNTRY: USA



```

; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 469 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-989-478-10

Query Match      38.4%; Score 1134; DB 2; Length 469;
Best Local Similarity 51.4%; Pred. No. 3.6e-107;
Matches 233; Conservative 89; Mismatches 115; Indels 16; Gaps 5;

QY 131 VLDYLSGRVGLPKAAACLVDEDCAHVGHCHPAVAFMAQVLPFAASTFQVAELTNLFORRL 190
Db 7 VLVYVSSRVPPPKGVSECADENCCHVACRPVDFMLEVLYLAFIFKIPELITLYQRHL 66
QY 191 LDVLDKVEVDNLLILSVANLCNCKMKLLERCLDMVVRSLNLDMLTLEKSLPPDVIKQII 250
Db 67 LSVVDKVVIEDTLVLKLANICGKACMKLLDRCKEIIVKSNDVMSLSKSLPEELVKKEII 126
QY 251 DARLSGLISPENKGFPPNKHVRRIHRAALSDSDVELVRMLLTGEGTNLDDAFALHYAVEHC 310
Db 127 DRKELGLEVPKVK----KHVSNVHKALSDSDIELVKLLKEDHTNLDACALHFAVAYC 182
QY 311 DSKITTELLDALADVNHNRNPGYTVLHIAARRPKIIVSLITKGARPAVTFPGRKAV 370
Db 183 NVKATDILLKLDADVNHNRNPGYTVLHVAAMRKEPQLILSLLEKGAASEATLSEGTAL 242
QY 371 QISKELTKQGYFGVTEEGKPSKDRLCIETILEQAEERDPQLGEASVSLAMAGESLGRLL 430
Db 243 MIAKQATWAVECNPIPEOCKSLKRLCVETILEQEDKREQIPROVPPPSFAVADELKWTL 302
QY 431 LYLENRVALARIMFPMEARVAMIDIAQVDTLEFNLGSGANPPPER----QRTVDLNSP 486
Db 303 LDLENRVALAQRLLPTEAQAAMEIAEMKGTCEFTVTS---LEPDLRTGKRTSPGVKIAP 359

US-08-996-685-10
Query Match      38.4%; Score 1134; DB 3; Length 469;
Best Local Similarity 51.4%; Pred. No. 3.6e-107;
Matches 233; Conservative 89; Mismatches 115; Indels 16; Gaps 5;

QY 131 VLDYLSGRVGLPKAAACLVDEDCAHVGHCHPAVAFMAQVLPFAASTFQVAELTNLFORRL 190
Db 7 VLVYVSSRVPPPKGVSECADENCCHVACRPVDFMLEVLYLAFIFKIPELITLYQRHL 66
QY 191 LDVLDKVEVDNLLILSVANLCNCKMKLLERCLDMVVRSLNLDMLTLEKSLPPDVIKQII 250
Db 67 LSVVDKVVIEDTLVLKLANICGKACMKLLDRCKEIIVKSNDVMSLSKSLPEELVKKEII 126
QY 251 DARLSGLISPENKGFPPNKHVRRIHRAALSDSDVELVRMLLTGEGTNLDDAFALHYAVEHC 310
Db 127 DRKELGLEVPKVK----KHVSNVHKALSDSDIELVKLLKEDHTNLDACALHFAVAYC 182
QY 311 DSKITTELLDALADVNHNRNPGYTVLHIAARRPKIIVSLITKGARPAVTFPGRKAV 370
Db 183 NVKATDILLKLDADVNHNRNPGYTVLHVAAMRKEPQLILSLLEKGAASEATLSEGTAL 242
QY 371 QISKELTKQGYFGVTEEGKPSKDRLCIETILEQAEERDPQLGEASVSLAMAGESLGRLL 430
Db 243 MIAKQATWAVECNPIPEOCKSLKRLCVETILEQEDKREQIPROVPPPSFAVADELKWTL 302
QY 431 LYLENRVALARIMFPMEARVAMIDIAQVDTLEFNLGSGANPPPER----QRTVDLNSP 486
Db 303 LDLENRVALAQRLLPTEAQAAMEIAEMKGTCEFTVTS---LEPDLRTGKRTSPGVKIAP 359

; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 469 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-996-685-10

Query Match      38.4%; Score 1134; DB 3; Length 469;
Best Local Similarity 51.4%; Pred. No. 3.6e-107;
Matches 233; Conservative 89; Mismatches 115; Indels 16; Gaps 5;

QY 131 VLDYLSGRVGLPKAAACLVDEDCAHVGHCHPAVAFMAQVLPFAASTFQVAELTNLFORRL 190
Db 7 VLVYVSSRVPPPKGVSECADENCCHVACRPVDFMLEVLYLAFIFKIPELITLYQRHL 66
QY 191 LDVLDKVEVDNLLILSVANLCNCKMKLLERCLDMVVRSLNLDMLTLEKSLPPDVIKQII 250
Db 67 LSVVDKVVIEDTLVLKLANICGKACMKLLDRCKEIIVKSNDVMSLSKSLPEELVKKEII 126
QY 251 DARLSGLISPENKGFPPNKHVRRIHRAALSDSDVELVRMLLTGEGTNLDDAFALHYAVEHC 310
Db 127 DRKELGLEVPKVK----KHVSNVHKALSDSDIELVKLLKEDHTNLDACALHFAVAYC 182
QY 311 DSKITTELLDALADVNHNRNPGYTVLHIAARRPKIIVSLITKGARPAVTFPGRKAV 370
Db 183 NVKATDILLKLDADVNHNRNPGYTVLHVAAMRKEPQLILSLLEKGAASEATLSEGTAL 242
QY 371 QISKELTKQGYFGVTEEGKPSKDRLCIETILEQAEERDPQLGEASVSLAMAGESLGRLL 430
Db 243 MIAKQATWAVECNPIPEOCKSLKRLCVETILEQEDKREQIPROVPPPSFAVADELKWTL 302
QY 431 LYLENRVALARIMFPMEARVAMIDIAQVDTLEFNLGSGANPPPER----QRTVDLNSP 486
Db 303 LDLENRVALAQRLLPTEAQAAMEIAEMKGTCEFTVTS---LEPDLRTGKRTSPGVKIAP 359
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Qy	487	FIMKEEHLARMTALSKTVELGKRPFPRCNSVLDKIMD-DETDVPSLGRDTSAXR----	K	541
Db	360	FRILEEHQSRKLKALSKTVELGKRPFPRCNSVLDQIMNCEDLTQLACGEDDTAEXRLQKKQ		419
Qy	542	RFHDLQDVLQKAFHEDKEENDRSGLSSSSSSTS		574
Db	420	RYMEIQETLKKAFSEDNLELGNLSLTDSTSSTS		452

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Job time : 36 secs

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